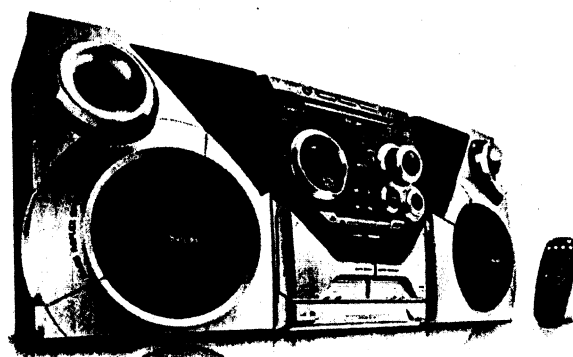


Service
Service
Service



Service Manual

COMPACT
disc
DIGITAL AUDIO
ReWritable

COMPACT
disc
DIGITAL AUDIO
Recordable

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COMPACT
disc
DIGITAL AUDIO

MP3-CD PLAYBACK
MP3

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CLASS 1
LASER PRODUCT

GB

3141 785 30140

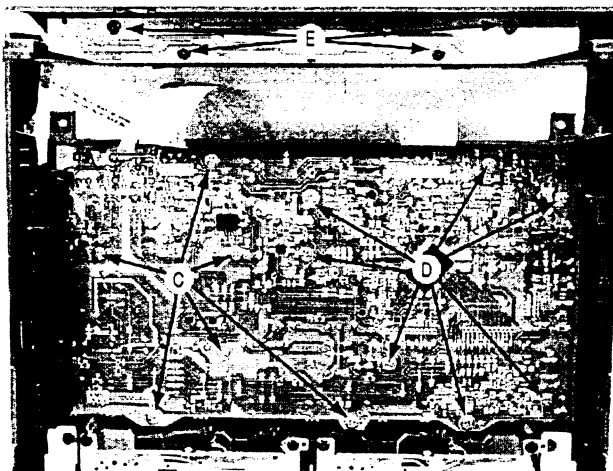
Version 1.0



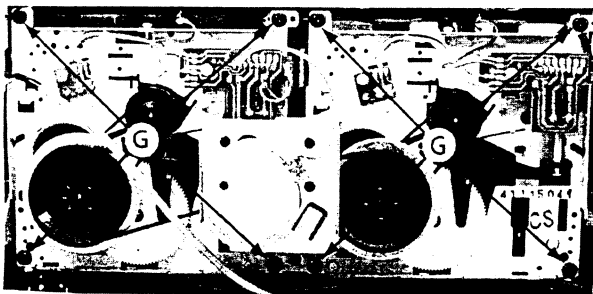
PHILIPS

Dismantling of the Front Board

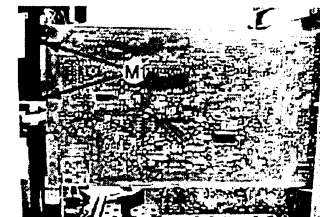
- 1) Remove 6 screws C and 7 screws D as indicated to loosen the Front Board.
- 2) Remove 4 screws E as indicated to loosen the Front Board.

Dismantling of the ETF Tape Module

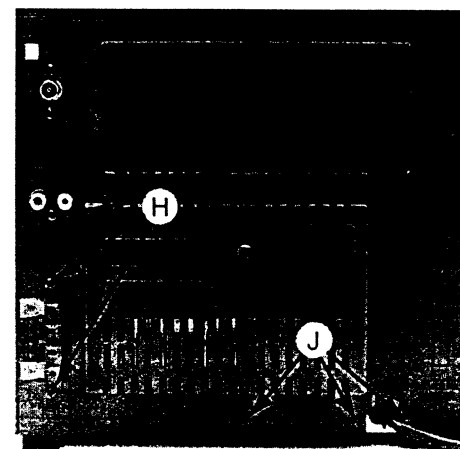
- 1) Remove 8 screws G as indicated to loosen the ETF Tape Module.

Dismantling of Rear Portion

- 1) Remove 5 screws H and uncatch M1 as indicated to loosen the Main Board.
- 2) Remove 3 screws J as indicated to loosen the Panel Rear.



Remove Main Board

Repair Hints

- 1) The Knob Volume can be remove pull it out in the direction as indicated. See picture 1.

Picture 1

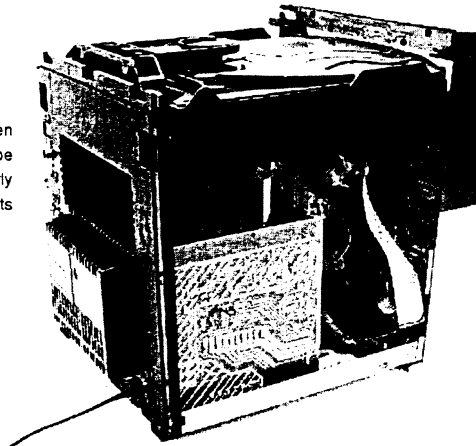


Repair Hints

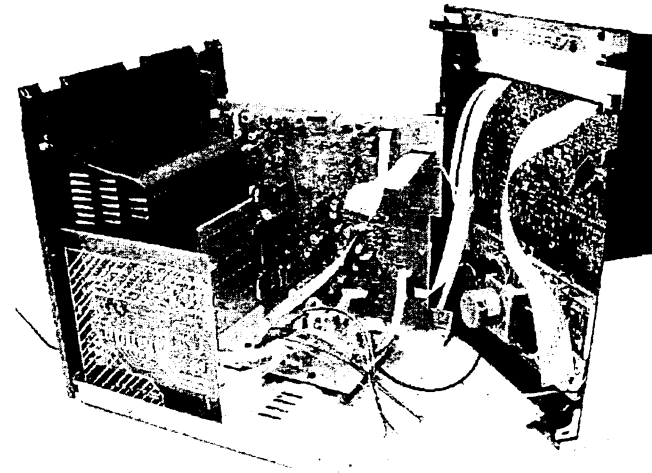
- 3) During repair it is possible to disconnect the Tape board and CDC Module completely unless the fault is suspected to be in that area. This will not affect the performance of the rest of the set.

Note: The flex cables are very fragile, care should be taken not to damage them during repair. After repair, be very sure that the flex cables are inserted properly into the flex sockets before encasing, otherwise faults may occur.

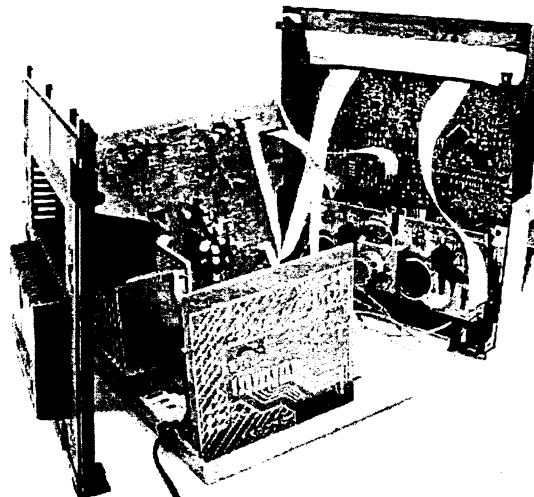
Service pos A



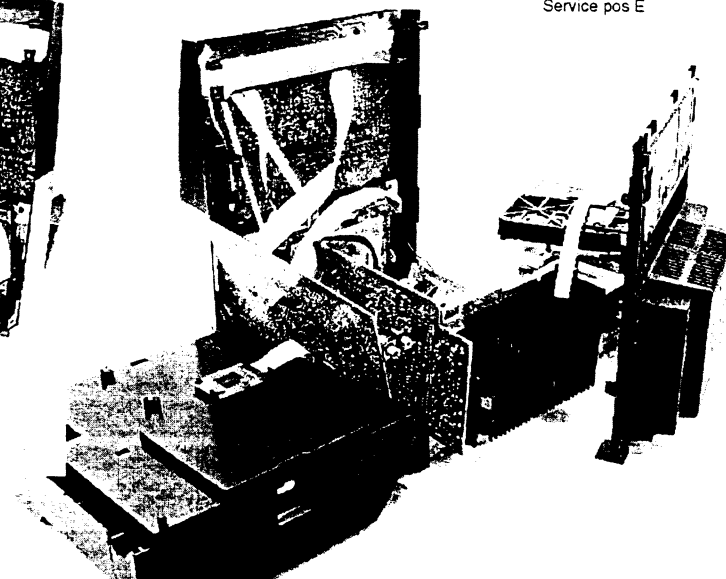
Service pos C



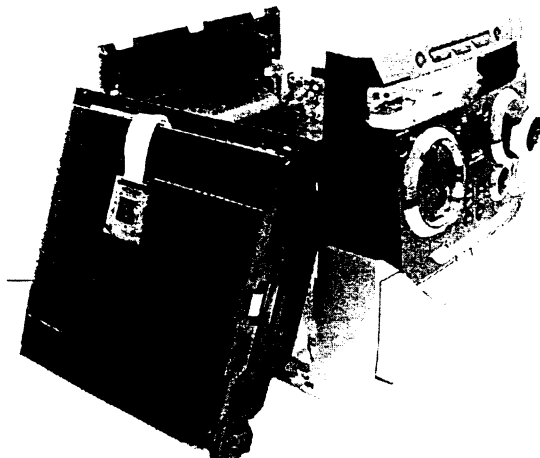
Service pos D

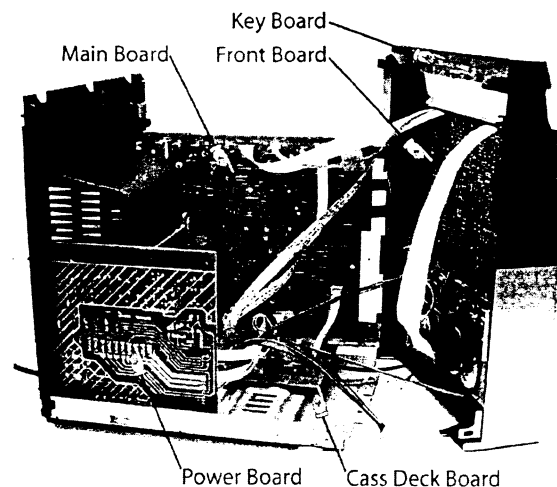


Service pos E



Service pos B



[illegible]

GENERAL:

Mains voltage : 110-127V/220-240V Switchable for /21/21M
230V $\pm$ 10% for /22/30

Mains frequency : 50/60Hz

Power consumption : < 1W at ECO Standby /22/25
< 15W Standby w/Clock on
< 30W Active

Clock accuracy : < 4 seconds per day

Dimension centre unit : 265 x 310 x 367mm

TUNER:

FM

Tuning range	: 87.5-108MHz
Grid	: 50kHz
IF frequency	: 10.7MHz $\pm$ 20kHz
Aerial input	: 75 Ω coaxial
Sensitivity at 26dB S/N	: < 7 μ V
Selectivity at 600kHz bandwidth	: > 25dB
IF rejection	: > 60dB [80dB]
Image rejection	: > 25dB [75dB]
Distortion at RF=1mV, dev. 75kHz	: < 3%
-3dB Limiting point	: < 8 μ V
Crossstalk at RF=1mV, dev. 40kHz	: > 18dB

MW

Tuning range	: 531-1602kHz
	530-1700kHz for /21
Grid	: 9kHz
	10kHz for /21
IF frequency	: 450kHz $\pm$ 1kHz
Aerial input	: Frame aerial
Sensitivity at 26dB S/N	: < 4.4 μ V/m[4.0mV/m]
Selectivity at 18kHz bandwidth	: > 18dB
IF rejection	: > 45dB
Image rejection	: > 28dB
Distortion at RF=50V/m, m=80%	: < 5%

AMPLIFIER:

Output power (6Ω, 1 kHz, 10% THD) : 2 x 40W RMS
Frequency response within -3dB : 50Hz-15kHz
Dynamic Bass Boost : DBB OFF, DBB 1, DBB 2, DBB 3 ²⁾
Digital Sound Control : Jazz, Rock, Techno, Optimal ²⁾
Headphone output at 32Ω : 15mW ± 2dB
5mW ± 2dB (CD mode)

Input sensitivity

Aux / CDR : 500mV / 1.0V at 600Ω

CASSETTE RECORDER:

Number of track	: 2 x 2 stereo
Tape speed	: 4.76 cm/sec $\pm$ 2%
Wow and flutter	: < 0.4% DIN
Fast-wind/rewind time C60	: 130 sec
Bias system	: 75kHz $\pm$ 10kHz
Rec/Pb frequency response within 8dB	: 80Hz - 12.5kHz
Signal to noise ratio	Type : > 48dB A

COMPACT DISC:

Measurement done at output conn. of the CDC module.

Frequency response within $\pm 1.5\text{dB}$: 20Hz - 20kHz

Output level (in Vrms) : 550mV $\pm 1\text{dB}$, $R_{\text{out}} = 100\Omega$

Signal/Noise ratio (A-weighted) : > 86dB

Distortion at 1kHz : < 0.003%

Channel unbalance at 1kHz : $\pm 1\text{dB}$

Channel separation at 1kHz : > 60dB

De-emphasis : 0 or 15/50 mS (Switched by subcode on the disc)

MPEG 1 Layer 3 (MP3-CD)	: MPEG AUDIO
MP3-CD Bit Rate	: 56-256 kbps
MP3-CD Sampling Frequencies	: 32 kHz, 44.1kHz, 48kHz

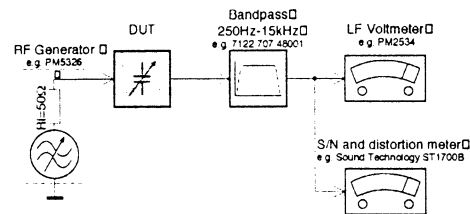
Recording Format : ISO 9660
UDF format not supported

[...] Values indicated are strictly for "Cenelec version" only

¹⁾ Frequency response in each setting is software controlled.

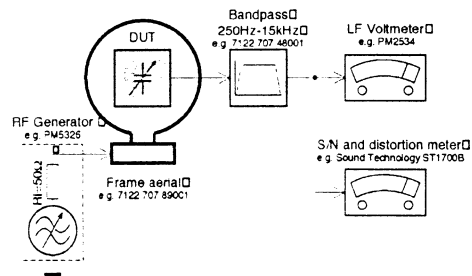
MEASUREMENT SETUP

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

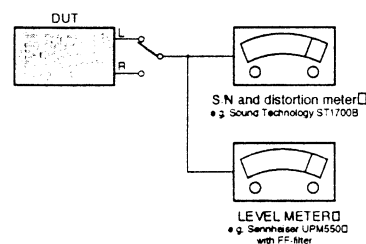
Tuner AM (MW, LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage. □
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

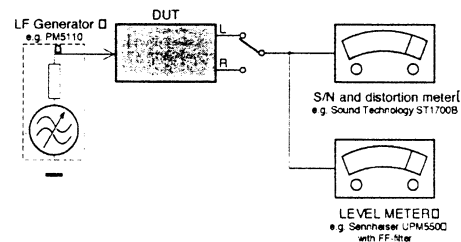


Use Audio Signal Disc □ SBC429 4822 397 30184
(replaces test disc 3) □



Recorder

Use Universal Test Cassette Cr02 SBC419 4822 397 30069
or Universal Test Cassette Fe SBC420 4822 397 30071



SERVICE AIDS

Service Tools:

Universal Torx driver holder	4822 395 91019
Torx bit T10 150mm	4822 395 50456
Torx driver set T6-T20	4822 395 50145
Torx driver T10 extended	4822 395 50423

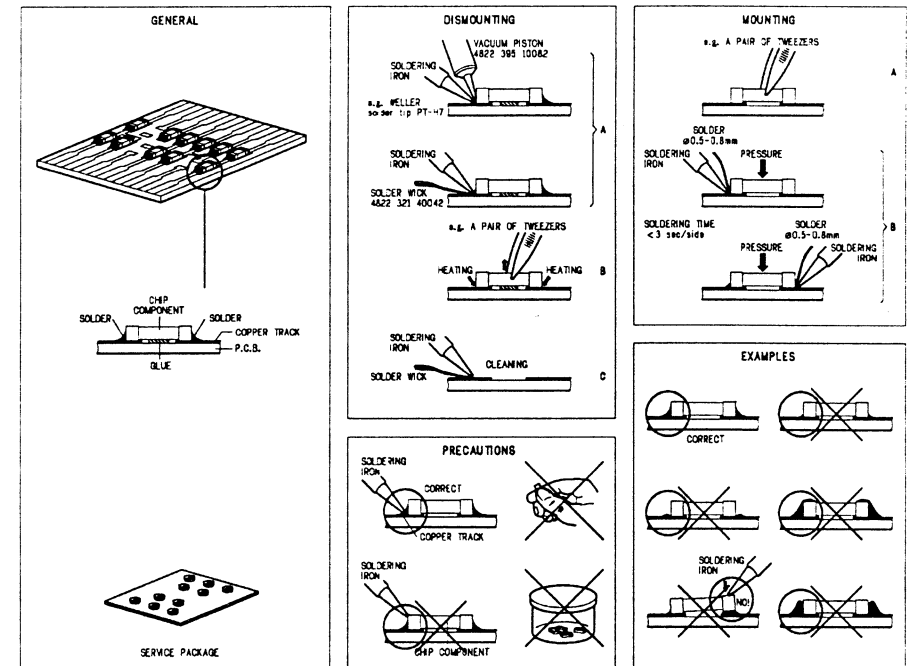
Compact Disc:

SBC426/426A Test disc 5 + 5A	4822 397 30096
SBC442 Audio Burn-in test disc 1kHz	4822 397 30155
SBC429 Audio Signals disc	4822 397 30184
Dolby Pro-logic Test Disc	4822 395 10216

ESD Equipment:

Anti-static table mat - large 1200x650x1.25mm	4822 466 10953
anti-static table mat - small 600x650x1.25mm	4822 466 10958
Anti-static wristband	4822 395 10223
Connectorbox (1MΩ)	4822 395 11307
Extension cable	
(to connect wristband to conn.box)	4822 320 11305
Connecting cable	
(to connect table mat to conn.box)	4822 320 11306
Earth cable (to Connect product to mat or box)	4822 320 11308
Complete kit ESD3	
(combining all above products)	4822 320 10671
Wristband tester	4822 344 13999

HANDLING CHIP COMPONENTS



**WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD**WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement découragée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilier le bracelet: sert d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**WARNUNG**

Alle IC's und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

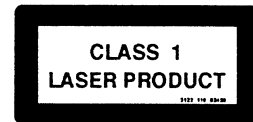


Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés: seuls habilités à réparer votre appareil en panne.



Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen identiek aan de gespecificeerde worden toegepast.



Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.



Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden. Für Reparaturen sind Original-Ersatzteile zu verwenden.

**Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

**Varning !**

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Beträkta ej strålen.

**Varoitus !**

Avatussa laitteessa ja suojalukituksen ohihittaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!



Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

**Advarsel !**

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

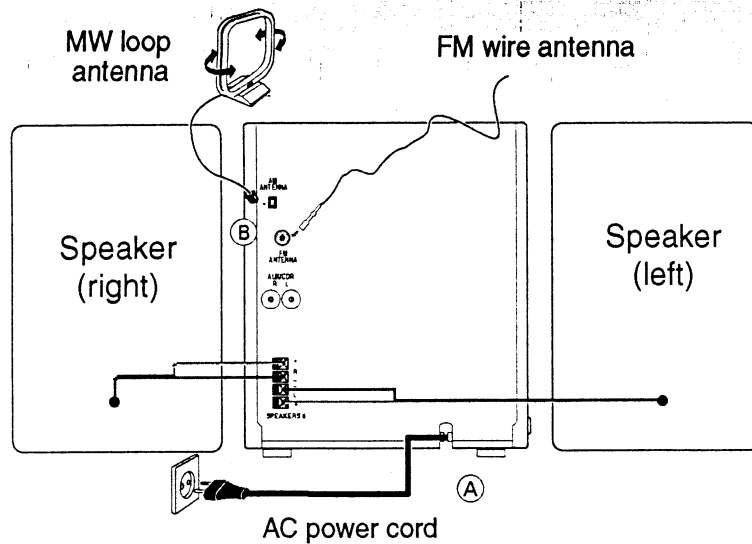
After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA.

SERVICE INSTRUCTION

Safety regulations require that after a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the AC Power lead for external damage.
- Check the strain relief of the AC Power cord for proper function.
- Check the electrical DC resistance between the AC Power Plug and the secondary side (only for sets which have a AC Power isolated power supply):
 1. Unplug the AC Power cord and connect a wire between the two pins of the AC Power plug.
 2. Set the AC Power switch to the "on" position (keep the AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "off" the set, and remove the wire between the two pins of the AC Power plug.
- Check the cabinet for defects, to avoid touching of any inner parts by the customer.

Preparations



Rear connections

The type plate is located at the rear of the system.

For users in the U.K.: please follow the instructions.

A Power

Before connecting the AC power cord to the wall outlet, ensure that all other connections have been made.

WARNING!

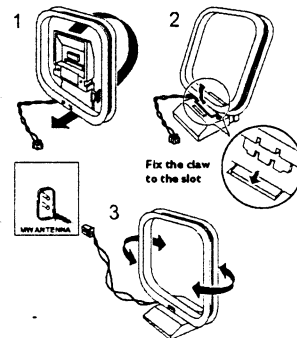
- For optimal performance, use only the original power cable.
- Never make or change any connections with the power switched on.

To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions).

B Antennas Connection

Connect the supplied MW loop antenna and FM antenna to the respective terminals. Adjust the position of the antenna for optimal reception.

MW Antenna



Position the antenna as far as possible from a TV, VCR or other radiation source.

FM Antenna

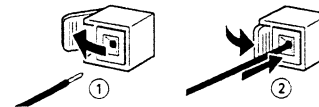


For better FM stereo reception, connect an outdoor FM antenna to the FM ANTENNA terminal.

C Speakers Connection

Front Speakers

Connect the speaker wires to the SPEAKERS terminals, right speaker to "R" and left speaker to "L", coloured (marked) wire to "+" and black (unmarked) wire to "-".



Fully insert the stripped portion of the speaker wire into the terminal as shown.

Notes:

- For optimal sound performance, use the supplied speakers.
- Do not connect more than one speaker to any one pair of +/— speaker terminals.
- Do not connect speakers with an impedance lower than the speakers supplied. Please refer to the SPECIFICATIONS section of this manual.

Preparations

Optional connection

The optional equipment and connecting cords are not supplied. Refer to the operating instructions of the connected equipment for details.

Connecting other equipment to your system

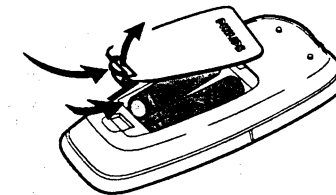
Use a cinch cable to connect **AUX/CDR** to the analogue audio out terminals of an external equipment (TV, VCR, Laser Disc player, DVD player or CD Recorder).

Note:

- If you are connecting equipment with a mono output (a single audio out terminal), connect it to the AUX/CDR left terminal. Alternatively, you can use a "single to double" cinch cable (the output sound still remain mono).

Inserting batteries into the remote control

Insert two batteries (Type R03 or AAA) into the remote control with the correct polarity as indicated by the "+" and "-" symbols inside the battery compartment.



CAUTION!

- Remove batteries if they are exhausted or will not be used for a long time.
- Do not use old and new or different types of batteries in combination.
- Batteries contain chemical substances, so they should be disposed off properly.

Controls

Controls on the system and remote control

- ① **STANDBY ON**
 - to switch the system on or to standby mode.
- ② **ECO POWER**
 - to switch the system on or to Eco Power standby mode.
- ③ **DISC 1/2/3 (CD DIRECT 1/2/3)**
 - to select a disc tray for playback.
- ④ **Source selection** – to select the following :
 - CD** (CD 1•2•3)
 - to select disc tray 1, 2 or 3.
 - TUNER (BAND)**
 - to select waveband : FM or MW.
 - TAPE** (TAPE 1•2)
 - to select tape deck 1 or 2.
 - AUX** (VIDEO/CDR)
 - to select the input for an additional appliance : AUX or CDR.
- ⑤ **Mode Selection**
 - ◀▶ SEARCH•TUNING**
 - for MP3-CD to select previous/next album.
 - for CD to search backward/forward.
 - for Tuner to tune to a lower or higher radio frequency.
 - for Tape to rewind or fast forward.
 - for Clock (on the system only) to set the hour.
 - STOP**
 - for CD/ MP3-CD .. to stop playback or to clear a programme.
 - for Tuner (on the system only) to stop programming.
 - for Tape to stop playback or recording.
 - for Demo (on the system only) to activate/deactivate the demonstration.
 - for Clock (on the system only) to exit clock setting.
 - for Plug & Play (on the system only) to exit plug & play mode.

▶ II PLAY•PAUSE

- for CD/ MP3-CD .. to start or interrupt playback.
- for Tape to start playback.
- for Plug & Play (on the system only) to initiate and start plug & play mode.

◀ PREV / ▶ NEXT (– TITLE +)

- for MP3-CD to select previous/next title.
- for CD to skip to the beginning of the current, previous, or next track.
- for Tuner to select a preset radio station.
- for Clock (on the system only) to set the minute.

⑥ DSC

- Selects different types of preset sound equaliser settings (OPTIMAL, JAZZ, ROCK or TECHNO).

⑦ DBB

- to select the desired bass boost level. (DBB 1, DBB 2, DBB 3 or DBB OFF)

⑧ REPEAT/SHUFFLE (REP/SHUF)

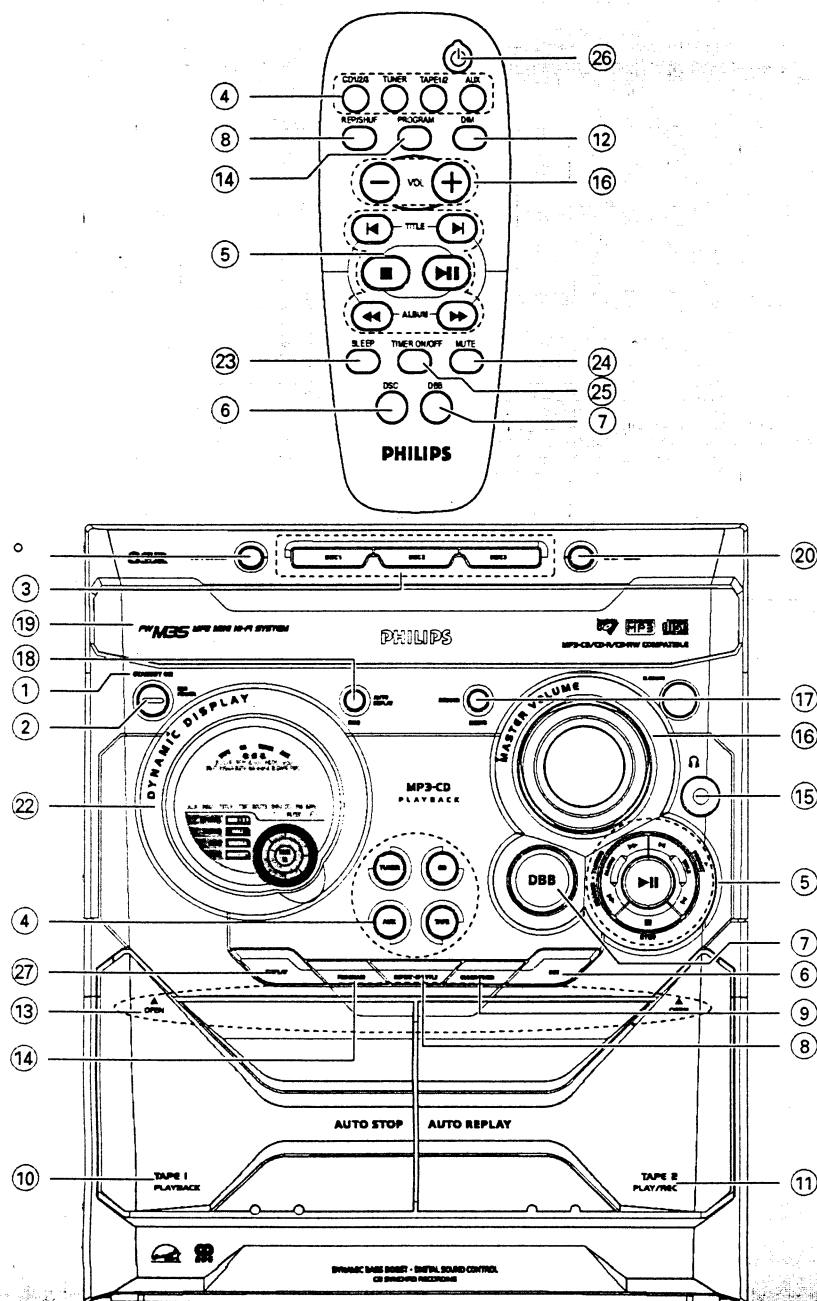
- to playback track(s)/disc(s)/programme repeatedly.
- Turns on/off the random play mode.

⑨ CLOCK•TIMER (CLK/TIMER)

- to view the clock.
- set the clock or set the timer (on the set only).

⑩ Tape deck 1

⑪ Tape deck 2



⑫ DIM MODE

- to select different brightness for the display screen : DIM 1, DIM 2, DIM 3 or DIM OFF.

⑬ ▲ OPEN

- to open the tape deck door.

⑭ PROGRAM

- for CD/ MP3-CD .. to programme disc tracks.
- for Tuner to programme preset radio stations.
- for Clock to select 12- or 24-hour clock mode.

⑮

- to connect headphones.

⑯ VOLUME (VOL + / -)

- to increase or decrease the volume.

⑰ NEWS/RECORD

- to hear News automatically.
- to start recording on tape deck 2.

⑱ RDS/AUTO REPLAY

- to select RDS information.
- to select continuous playback in either AUTO REPLAY or ONCE MODE only.

⑲ Disc tray

⑳ OPEN•CLOSE

- to open or close the disc tray.

◦ DISC CHANGE

- to change disc(s).

Display screen

- to view the current status of the system.

㉓ SLEEP

- to activate/deactivate or set the sleep timer.

㉔ MUTE

- Mutes or restores the volume.

㉕ TIMER ON/OFF

- activates/deactivates the timer function.

㉖

- to switch the system to standby mode.
- to switch the system to Eco Power standby mode.

㉗ DISPLAY

- Display the album and title name for MP3 disc.

Notes for remote control:

- First, select the source you wish to control by pressing one of the source select keys on the remote control (CD or TUNER, for example).
- Then select the desired function (▶, ◀, ▶◀, for example).

Maintenance

Cleaning the Cabinet

Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out. Do not wipe in circular motion.

Do not use solvents such as benzene, thinner, commercially available cleaners, or antistatic spray intended for analogue records.



Cleaning the disc lens

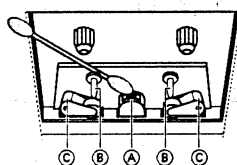
After prolonged use, dirt or dust may accumulate at the disc lens. To ensure good playback quality, clean the disc lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with cleaner.

Cleaning the Heads and the Tape Paths

To ensure good recording and playback quality, clean the heads (A), the capstan(s) (B), and pressure roller(s) (C) after every 50 hours of tape operation.

Use a cotton swab slightly moistened with cleaning fluid or alcohol.

You also can clean the heads by playing a cleaning tape once.



Demagnetising the heads

Use a demagnetising tape available at your dealer.

Troubleshooting

WARNING

Under no circumstances should you try to repair the system yourself, as this will invalidate the warranty. Do not open the system as there is a risk of electric shock.

If a fault occurs, first check the points listed below before taking the system for repair. If you are unable to remedy a problem by following these hints, consult your dealer or Philips for help.

Problem	Solution
"NO DISC" is displayed.	Insert a disc. Check if the disc is inserted upside down. Wait until the moisture condensation at the lens has cleared. Replace or clean the disc, see "Maintenance". Use a finalized CD-RW or a correct MP3-CD format disc.
"DISC NOT FINALIZED" is displayed.	Use a finalised CD-RW or CD-R.

Radio reception is poor.

If the signal is too weak, adjust the antenna or connect an external antenna for better reception.

Increase the distance between the Mini HiFi System and your TV or VCR.

Clean deck parts, see "Maintenance".

Use only NORMAL (IEC I) tape.

Apply a piece of adhesive tape over the missing tab space.

Remove and reconnect the AC power plug and switch on the system again.

Recording or playback cannot be made.

The tape deck door cannot open.

The system does not react when buttons are pressed.

Remove and reconnect the AC power plug and switch on the system again.

Sound cannot be heard or is of poor quality.

Adjust the volume.

Disconnect the headphones.

Check that the speakers are connected correctly.

Check if the stripped speaker wire is clamped.

Make sure the MP3-CD was recorded within 32-256 kbps bit rate with sampling frequencies at 48 kHz, 44.1 kHz or 32 kHz.

The left and right sound outputs are reversed.

The remote control does not function properly.

Check the speaker connections and location.

Select the source (CD or TUNER, for example) before pressing the function button (▶, ◀, ►).

Reduce the distance between the remote control and the system.

Insert the batteries with their polarities (+/- signs) aligned as indicated.

Replace the batteries.

Point the remote control directly towards the IR sensor.

Set the clock correctly.

Press and hold CLOCK • TIMER to switch on the timer.

If recording or tape dubbing is in progress, stop recording.

The time is not working.

Not all lighted buttons are showing light.

Press DIM to select DIM OFF display mode.

The Clock/Timer setting is erased.

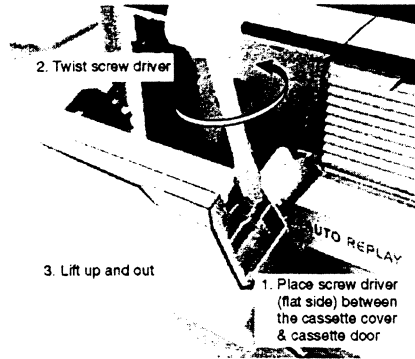
Power has been interrupted or the power cord has been disconnected. Reset the clock/timer.

The system displays features automatically and buttons start flashing.

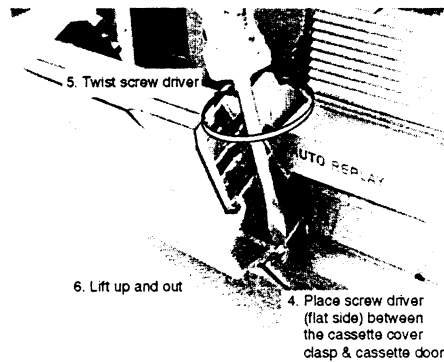
Press and hold ■ on the system to switch off the demonstration.

DISMANTLING INSTRUCTIONS

Dismantling of the Cassette Cover



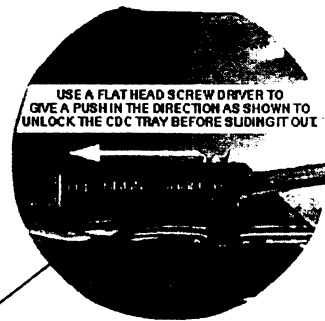
Remove Cassette Upper Cover



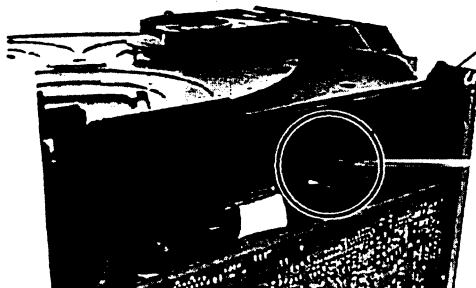
Remove Cassette Nether Cover

Dismantling of the CDC Module and Front Panel

- 1) Loosen 4 screws to remove the Cover Top of the set.
- 2) Loosen 2 screws to remove the Panel Left and 2 screws to remove the Panel Right of the set.
- 3) Slide out the CDC Tray as shown in the diagram below with the help of a flat head screw driver.

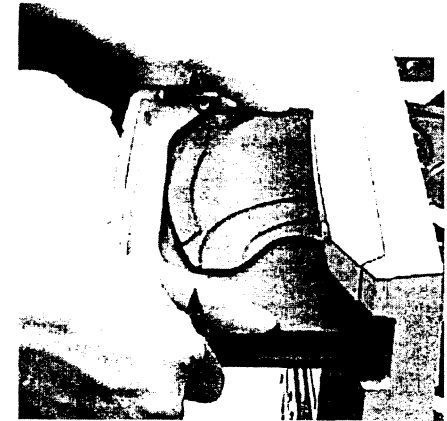


Sliding Out The CDC Tray



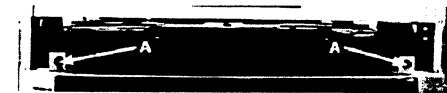
Dismantling of the CDC Module and Front Panel

- 4) Remove the Cover Tray CDC as indicated.



Remove Cover Tray CDC

- 5) Loosen 2 screws A and 2 screws B to remove the CDC Module as indicated.
- 6) Remove 2 screws at the bottom to separate the Front Panel Assembly from the Plate Bottom .

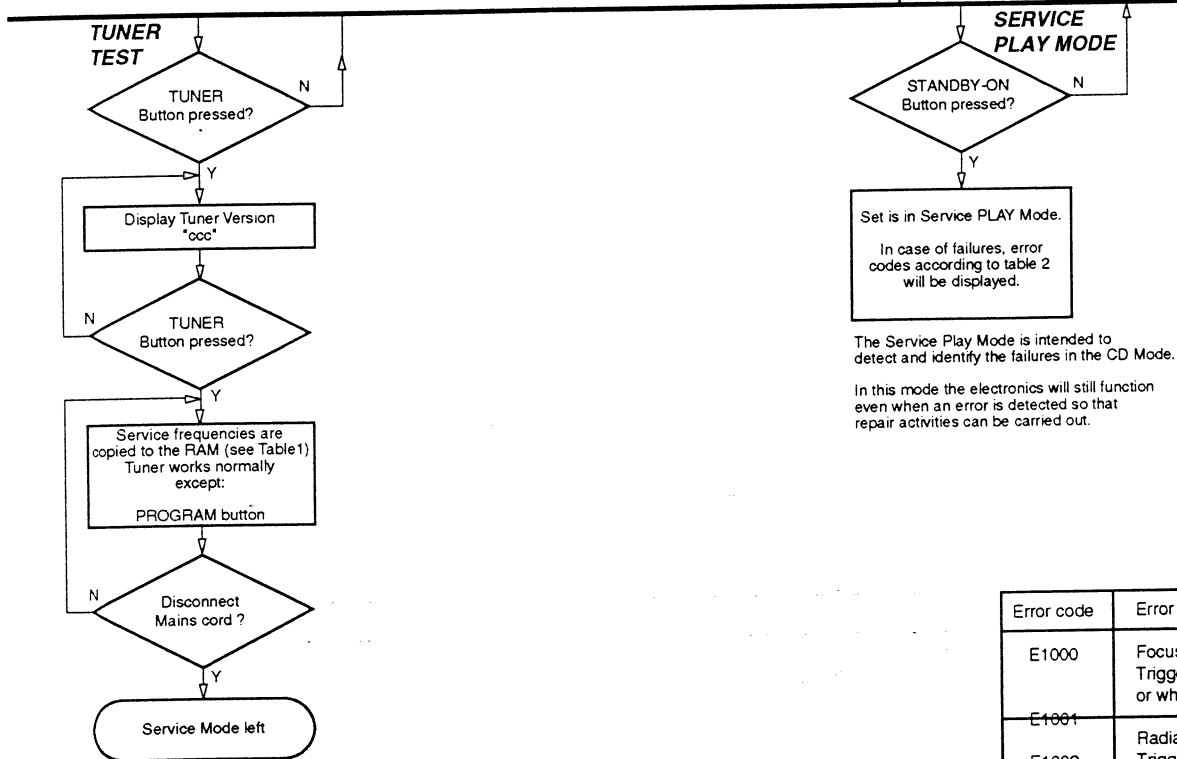
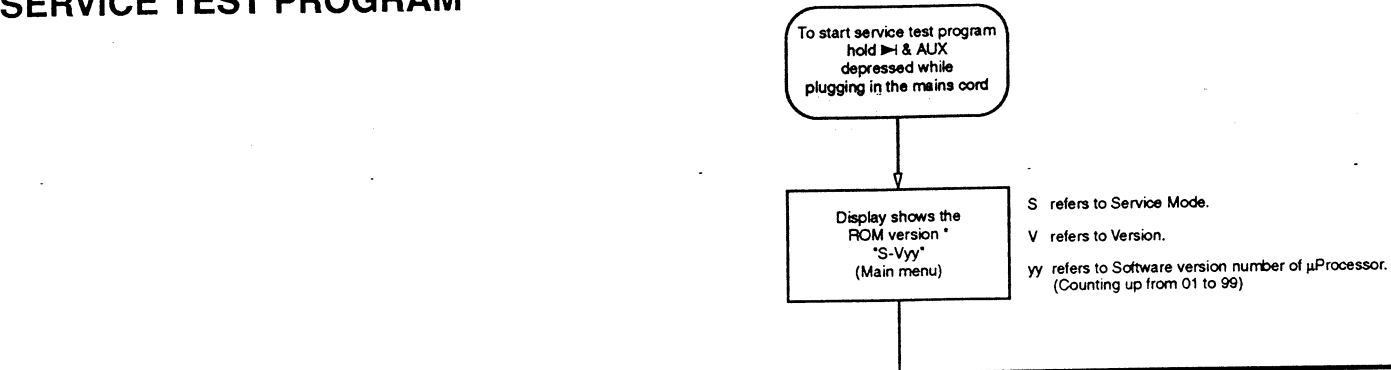


Front View CDC



Remove CDC Module

SERVICE TEST PROGRAM



PRESET	Europe "EUR"	East Eur. Extended-band "EAS"	East Eur. "EAS"	USA "USA"	Oversea "OSE"
1	87.5MHz	65.81MHz	87.5MHz	87.5MHz	87.5MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz
3	531kHz	74MHz	531kHz	530kHz	530/531kHz*
4	1602kHz	87.5MHz	1602kHz	1700kHz	1700/1602kHz*
5	558kHz	531kHz	558kHz	560kHz	560/558kHz*
6	1494kHz	1602kHz	1494kHz	1500kHz	1500/1494kHz*
7	153kHz	558kHz	87.5MHz	98MHz	98/87.5MHz*
8	279kHz	1494kHz	87.5MHz	87.5MHz	87.5MHz
9	198kHz	98MHz	87.5MHz	87.5MHz	87.5MHz
10	98MHz	70.01MHz	87.5MHz	87.5MHz	87.5MHz
11	87.5MHz	65.81MHz	98MHz	87.5MHz	87.5/98MHz*

Table 1

Note: * Depending on the selected grid frequency (9 or 10kHz)
By holding the TUNER and **▶▶** buttons depressed while switching on the Mains supply, one of the undermentioned features will be activated:

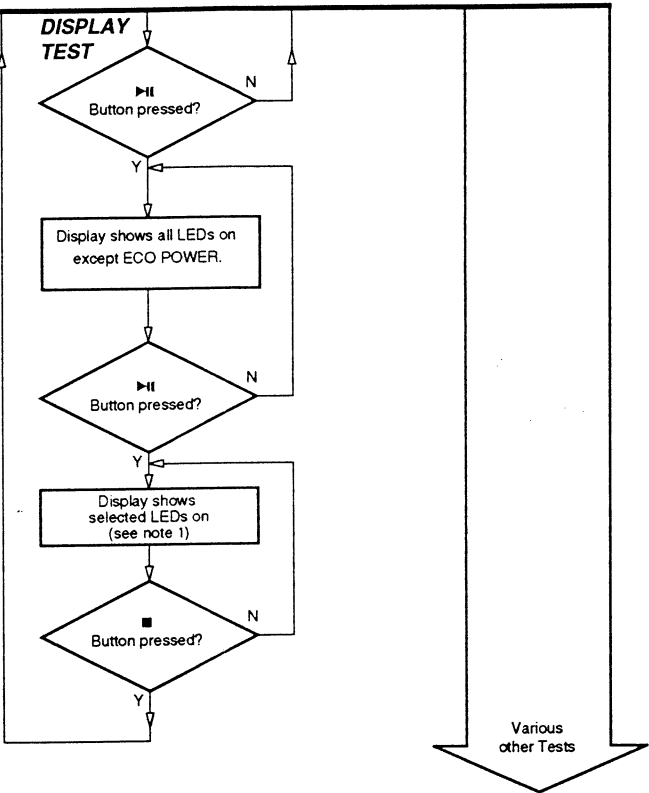
- the tuning grid frequency is toggled between 9kHz and 10kHz for the Oversea (/21) version.
- the extended FM1 (65.81MHz - 74MHz) is toggled on and off for East Eur. (/34) version.

Error code	Error Description
E1000	Focus Error Triggered when the focus could not be found within a certain time when starting up the CD or when the focus is lost for a certain time during play.
E1001	Radial Error Triggered when the radial servo is off-track for a certain time during play.
E1002	Sledge In Error The sledge did not reach its inner position (inner-switch is still close) before approximately 6 Sec. have passed by. Inner-switch or sledge motor problem.
E1003	Sledge Out Error The sledge did not come out of its inner position (inner-switch is still open) before approximately 250 mSec. have passed by. Inner-switch or sledge motor problem.
E1005	Jump-offtrack error Triggered in normal play when the jump destination could not be found within a certain time. When this error occurred, software will try to recover by initiating the jump command again. If it is recoverable, the disc will continue to play.
E1006	Subcode Error Triggered when a new subcode was missing for a certain time during play.
E1007	PLL Error The Phase Lock Loop could not lock within a certain time.
E1008	Turntable Motor Error Generated when the CD could not reached 75% of speed during startup within a certain time. Discmotor problem.
E1070	Focus Search Error The focus point has not been found within a certain time.
E1071	This happens when the carousel switch is defective and closed all the time, or when the carousel is blocked when it is located exactly at a disc position.
E1079	This happens when the carousel switch is defective and does not closed electrically, or when the carousel is blocked in between two disc positions. The time-out is approximately 5 Sec.
	The drawer could not open or enter the inside position and is opening again. This happen when the drawer is blocked and cannot go fully inside or when the drawer switch is defective and does not close.

Table 2

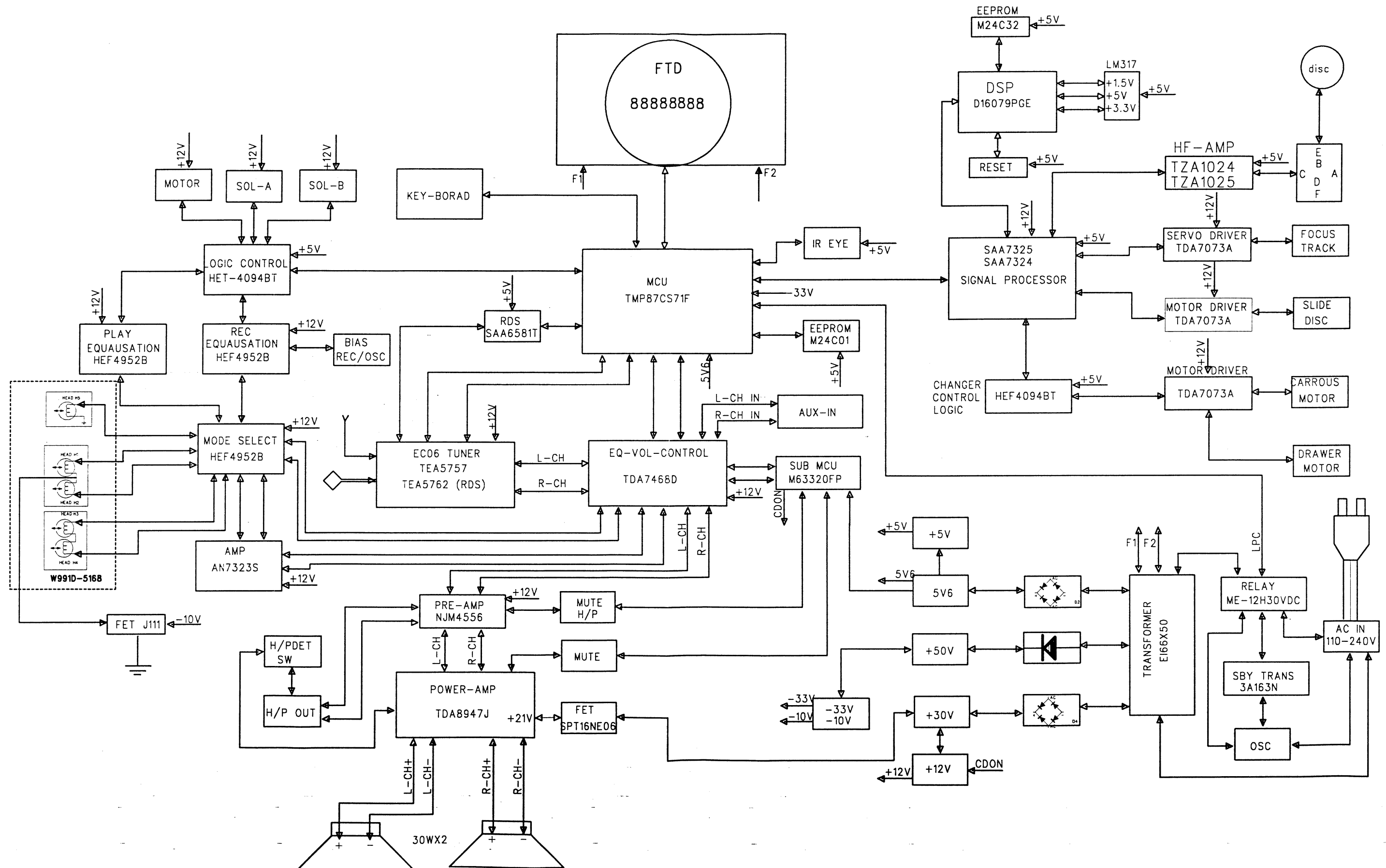
DEMO Mode

	ACTION
To Switch off	Hold the ▶▶ button down for 5 seconds during the DEMO display, the set will confirm with "DEMO OFF" and switch to Standby.
To Switch on	Hold the ▶▶ button down for 5 seconds during Standby, DEMO will begin.

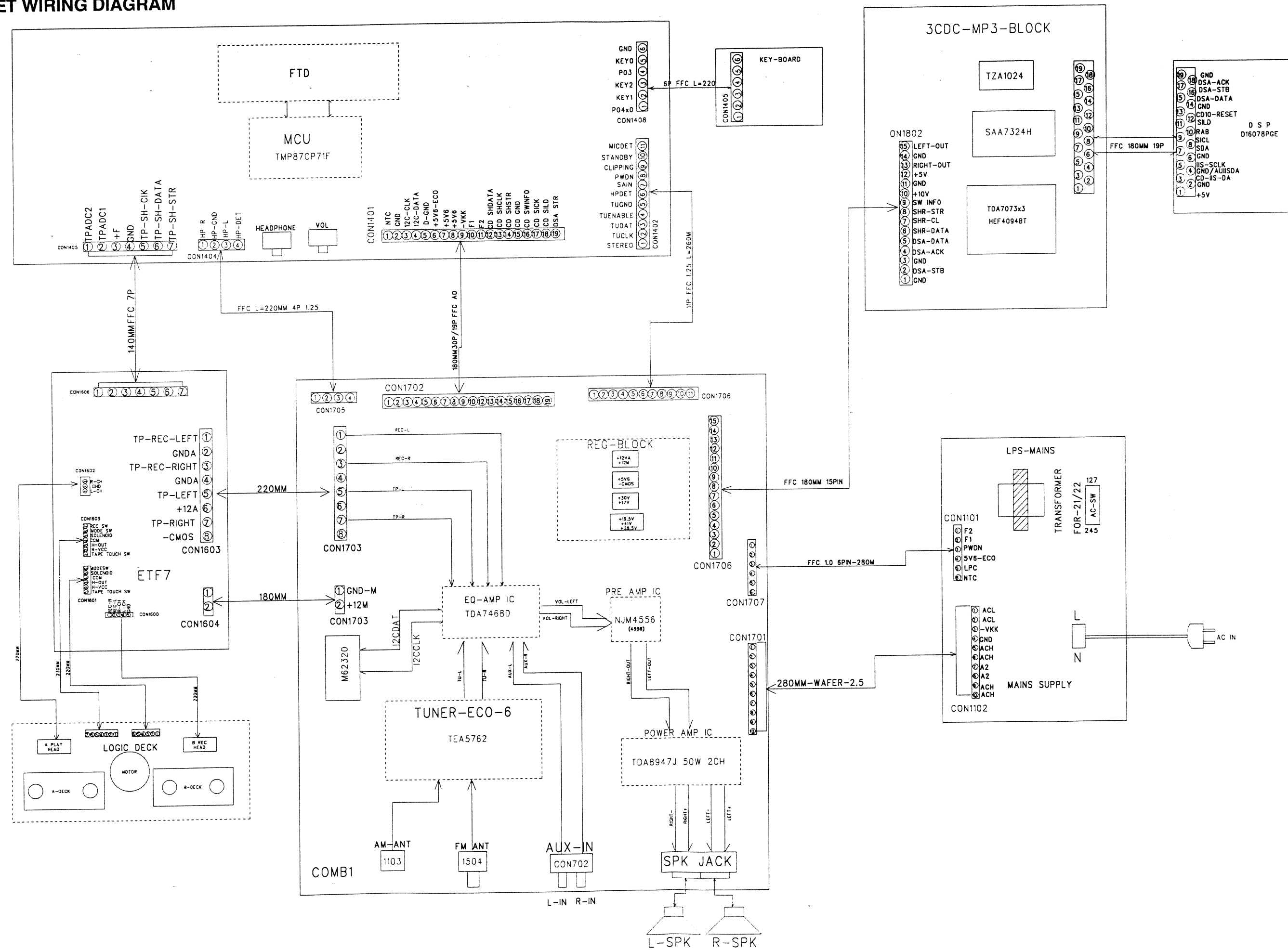


TEST	Activated with	ACTION
EEPROM TEST	▶▶	A test pattern will be sent to the EEPROM. "PASS" is displayed if the μ Processor read back the test pattern correctly, otherwise "FAIL" will be displayed.
EEPROM FORMAT	▶▶ to Exit	Load default data. Display shows "NEW" for 1 second. Caution! All presets from the customer will be lost!!
ROTARY ENCODER TEST	Volume Knob or Jog Shuttle knob	Display shows value for 2 seconds. Values increases or decreases in steps of 1 until 0 (Min.) or 40 (Max.) is reached.
LEAVE SERVICE TEST PROGRAM	Disconnect mains cord	

SET BLOCK DIAGRAM



SET WIRING DIAGRAM



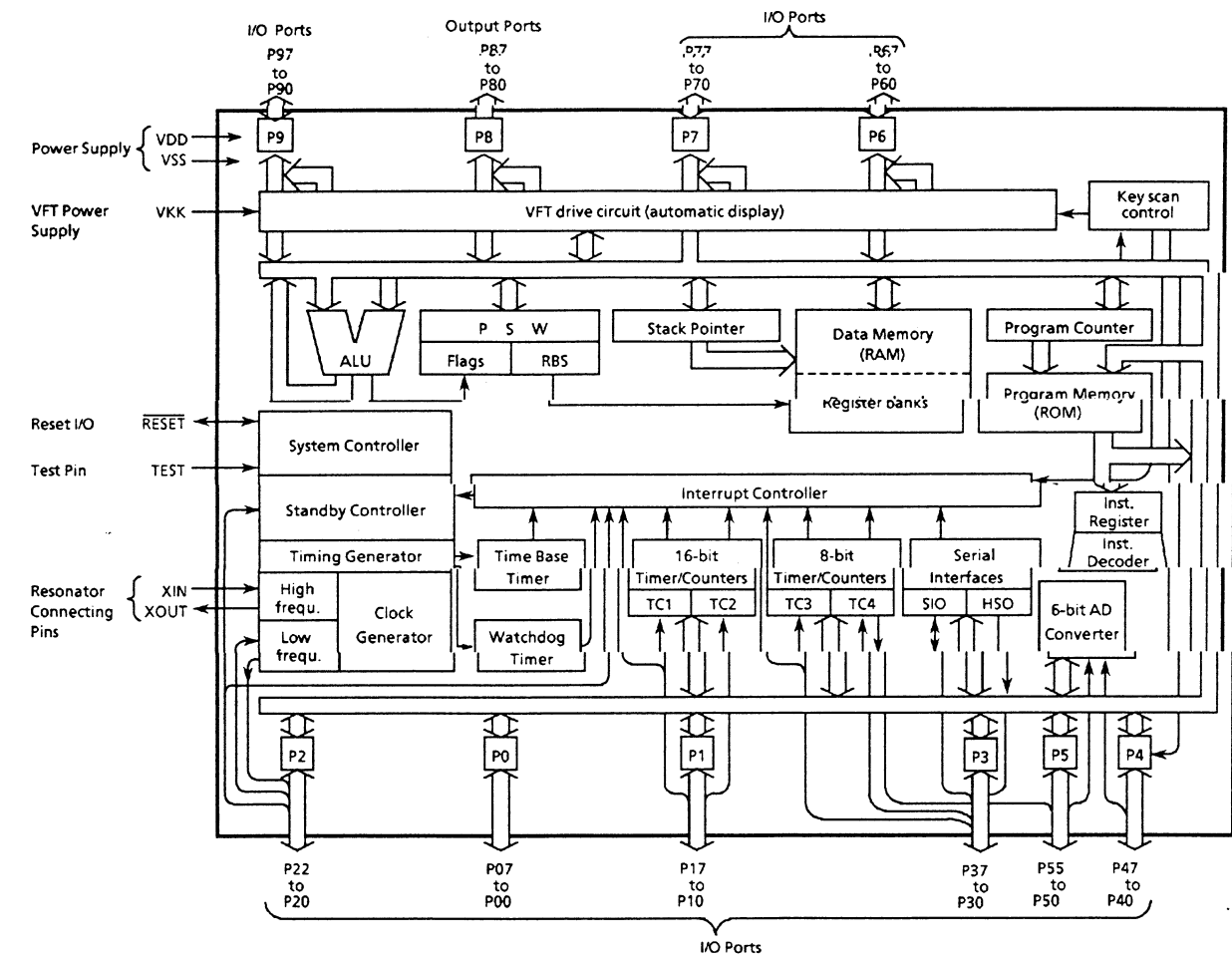
FRONT & KEY BOARD

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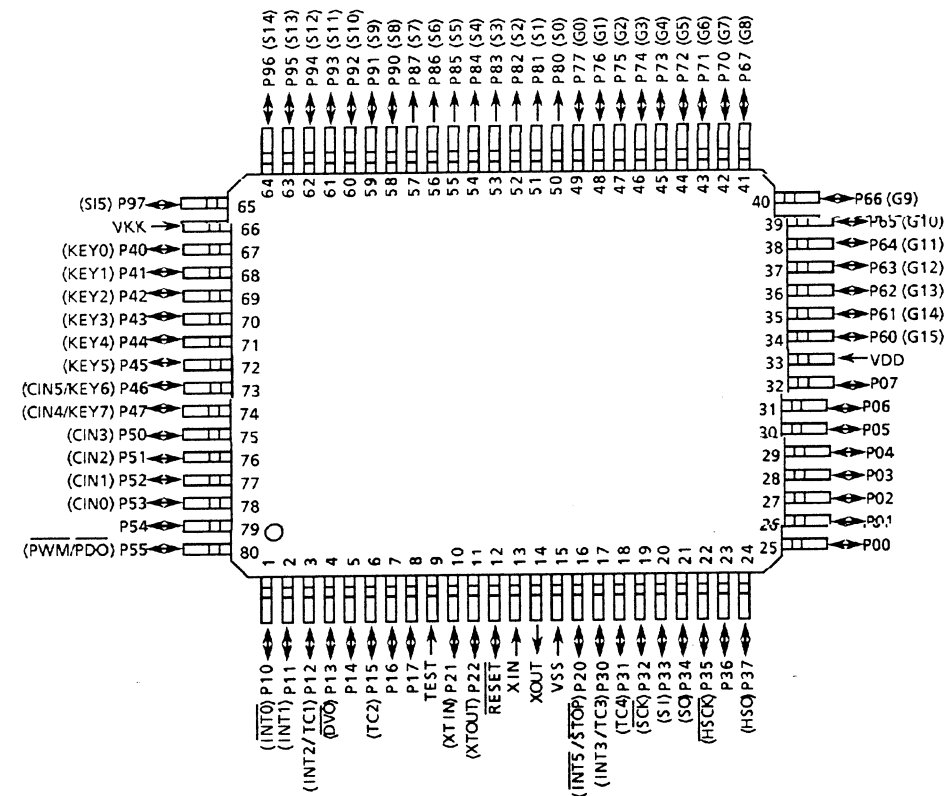
Internal IC Diagram & Pin Assignment	5-1
Internal IC Diagram & Pin Description	5-2
Internal IC Diagram & Pin Description	5-3
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Circuit Diagram (Mic Part)	5-7
Electrical Parts List	5-8

Remark: For Ver. 22, the whole Front Board Ass'y can be orderd with 12nc: 9940 000 01504

INTERNAL BLOCK DIAGRAM MICROCONTROLLER - IC TMP87PS71F



PIN ASSIGNMENT (TOP VIEW) MICROCONTROLLER - IC TMP87PS71F



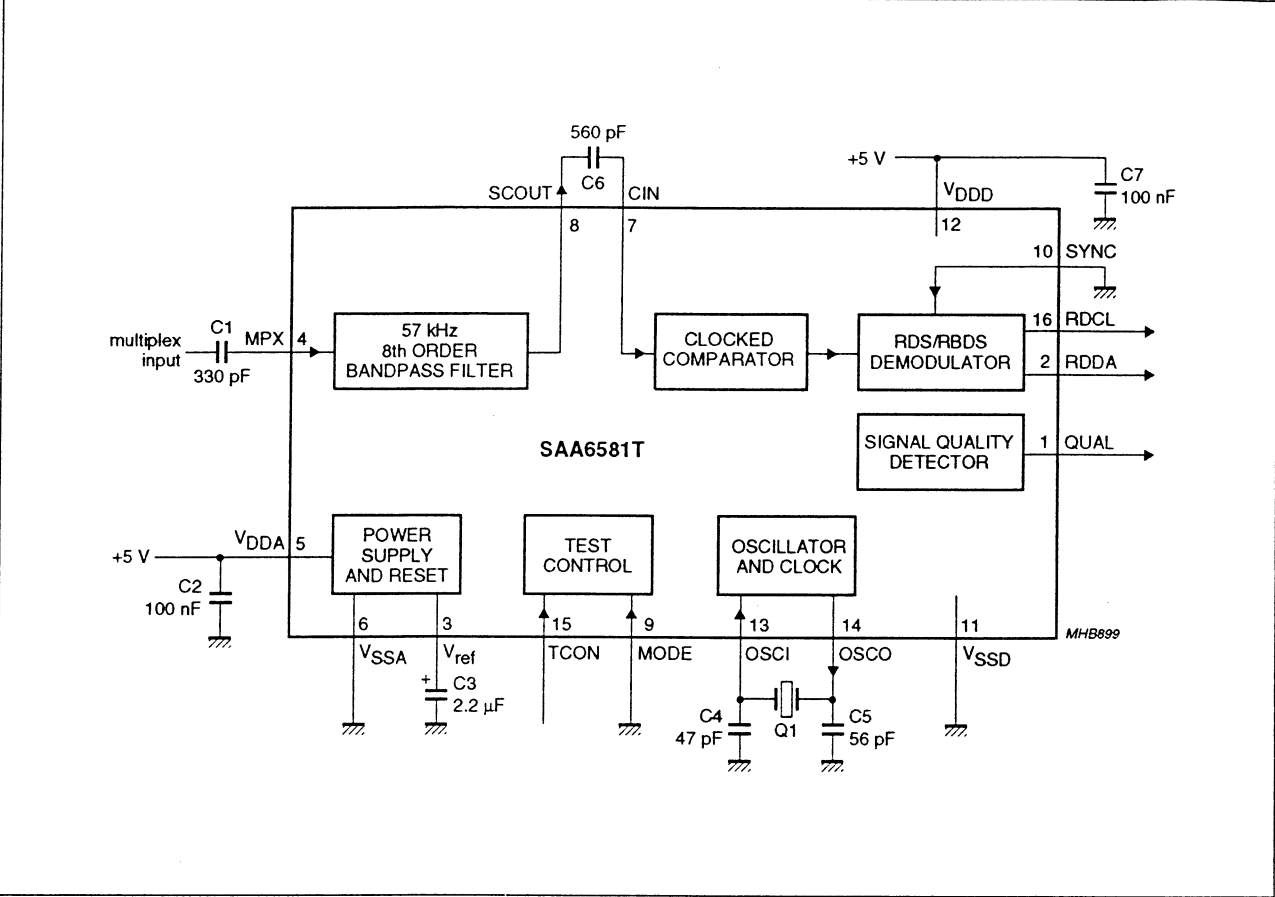
PIN DESCRIPTION MICROCONTROLLER - IC TMP87PS71F

Pin Function

Pin Name	Input / Output	Function
P07 to P00	I/O	Two 8-bit programmable input/output ports (tri-state).
P17, P16, P14	I/O	Each bit of these ports can be individually configured as an input or an output under software control.
P15 (TC2)	I/O (Input)	Timer/Counter 2 input
P13 (DVO)	I/O (Output)	Divider output
P12 (INT2 / TC1)		External interrupt input 2 or Timer/Counter 1 input
P11 (INT1)	I/O (Input)	External interrupt input 1
P10 (INT0)		External interrupt input 0
P22 (XTOUT)	I/O (Output)	Resonator connecting pins (32.768 kHz). For inputting external clock, XTIN is used and XTOUT is opened.
P21 (XTIN)	I/O (Input)	When used as an input port, the latch must be set to "1".
P20 (INT5 / STOP)		External interrupt input 5 or STOP mode release signal input
P37 (HSO)	I/O (Output)	HSO serial data output
P36	I/O	
P35 (HSCK)	I/O (Output)	8-bit input/output port with latch. HSO serial clock output
P34 (SO)		When used as an input port, a HSO output, a SIO input/output, a timer/counter input, or an interrupt input, the latch must be set to "1". SIO serial data output
P33 (SI)	I/O (Input)	SIO serial data input
P32 (SCK)	I/O (I/O)	SIO serial clock input/output
P31 (TC4)		Timer/Counter 4 input
P30 (INT3 / TC3)	I/O (Input)	External interrupt input 3 or Timer/Counter 3 input
P47 (CIN4 / KEY7), P46 (CIN5 / KEY6), P45 (KEY5) to P40 (KEY0)	I/O (Input)	8-bit input/output port with latch. When used as an input port, the latch must be set to "1". Comparator inputs or Key scan inputs
P55 (PWM / PDO)	I/O (Output)	6-bit input/output port with latch. 8-bit PWM output or 8-bit programmable divider output
P54	I/O	When used as an input port, a comparator input, or a PWM / PDO output, the latch must be set to "1".
P53 (CIN0) to P50 (CIN3)	I/O (Input)	Comparator inputs
P67 (G8) to P60 (G15)		
P77 (G0) to P70 (G7)	I/O (Output)	Three 8-bit high breakdown voltage I/O ports with the latch. When used as a VFT driver output, the latch must be cleared to "0". VFT digit driver outputs
P97 (S15) to P90 (S8)		
P87 (S7) to P80 (S0)	Output (Output)	8-bit high breakdown voltage output port with latch. When used as VFT driver output, the latch must be cleared to "0". VFT segment driver outputs (Key strobe outputs)
XIN, XOUT	Input, Output	Resonator connecting pins for high-frequency clock. For inputting external clock, XIN is used and XOUT is opened.
RESET	I/O	Reset signal input or watchdog timer output/address-trap-reset output/system-clock-reset output.
TEST	Input	Test pin for out-going test. Be tied to low.
VDD, VSS		
VKK	Power Supply	+ 5 V, 0 V (GND) VFT driver power supply

INTERNAL BLOCK DIAGRAM
RDS/RBDS DEMODULATOR - IC SAA6581T

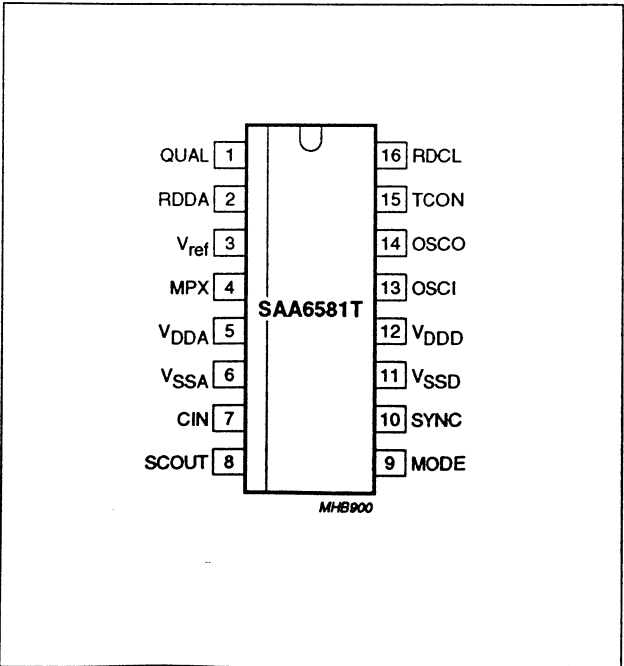
BLOCK DIAGRAM



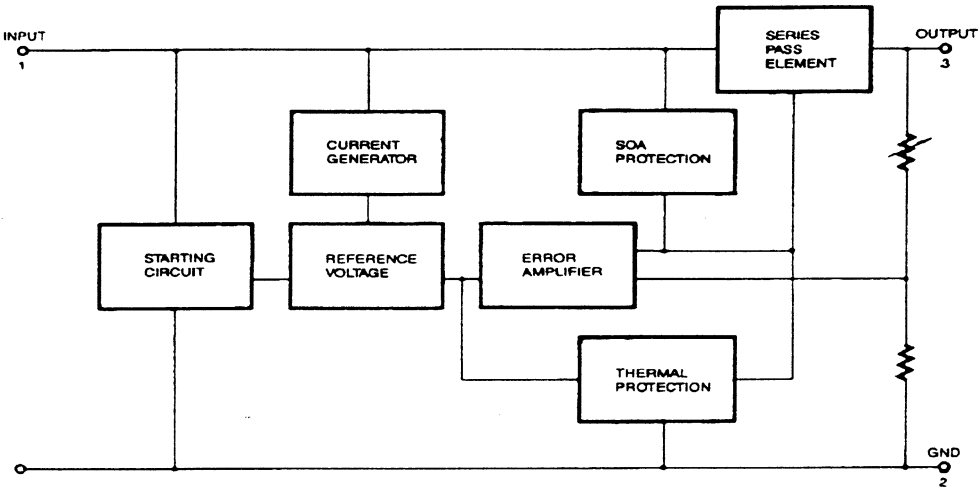
PIN DESCRIPTION
RDS/RBDS DEMODULATOR - IC SAA6581T

PINNING

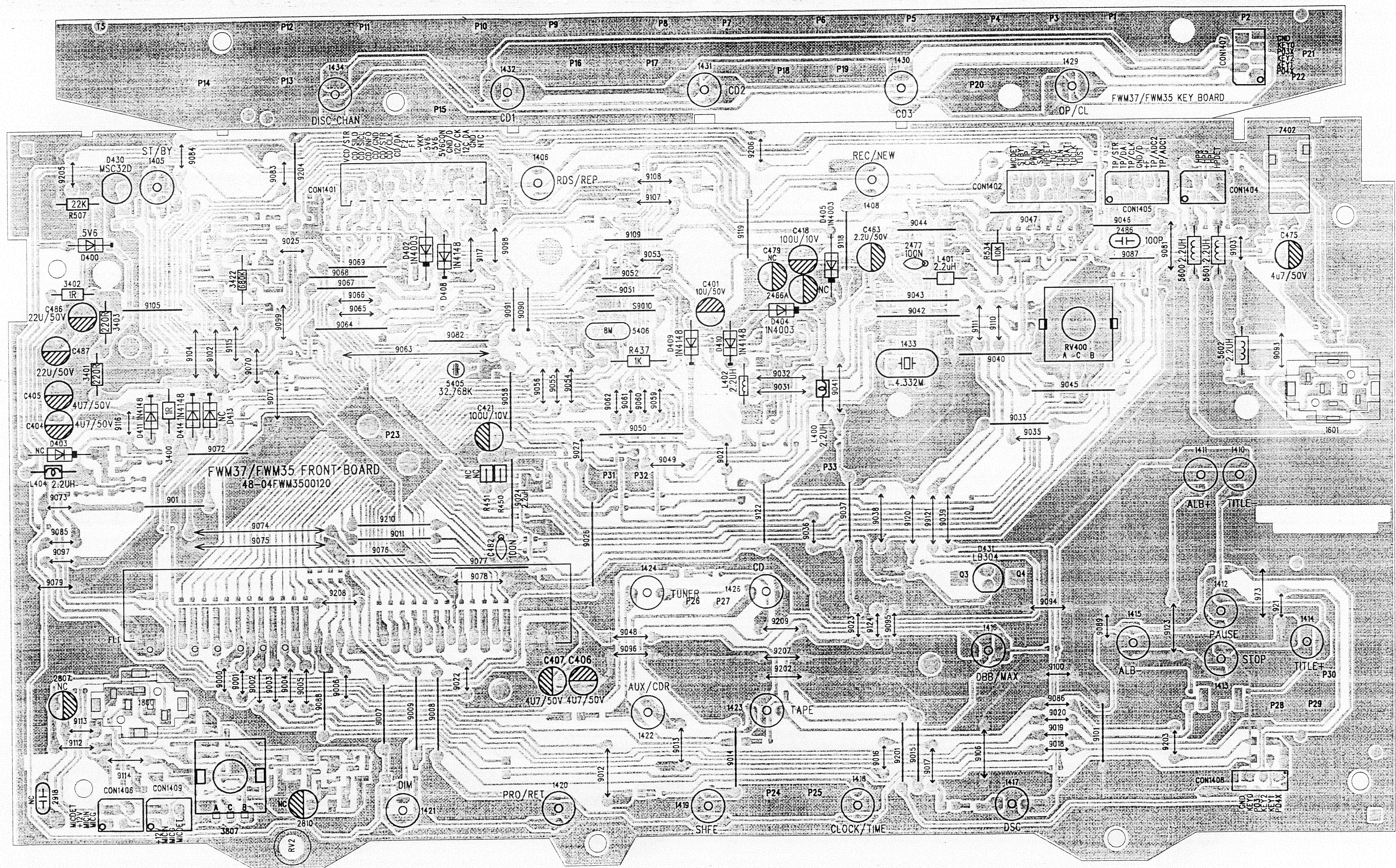
SYMBOL	PIN	DESCRIPTION
QUAL	1	signal quality indication output
RDDA	2	RDS data output
V _{ref}	3	reference voltage output (1/2 V _{DDA})
MPX	4	multiplex signal input
V _{DDA}	5	analog supply voltage (5 V)
V _{SSA}	6	analog ground (0 V)
CIN	7	comparator input
SCOUT	8	switched capacitor filter output
MODE	9	oscillator frequency select input
SYNC	10	ARI clamping control input
V _{SSD}	11	digital ground (0 V)
V _{DDD}	12	digital supply voltage (5 V)
OSCI	13	oscillator input
OSCO	14	oscillator output
TCON	15	test control input
RDCL	16	RDS clock output

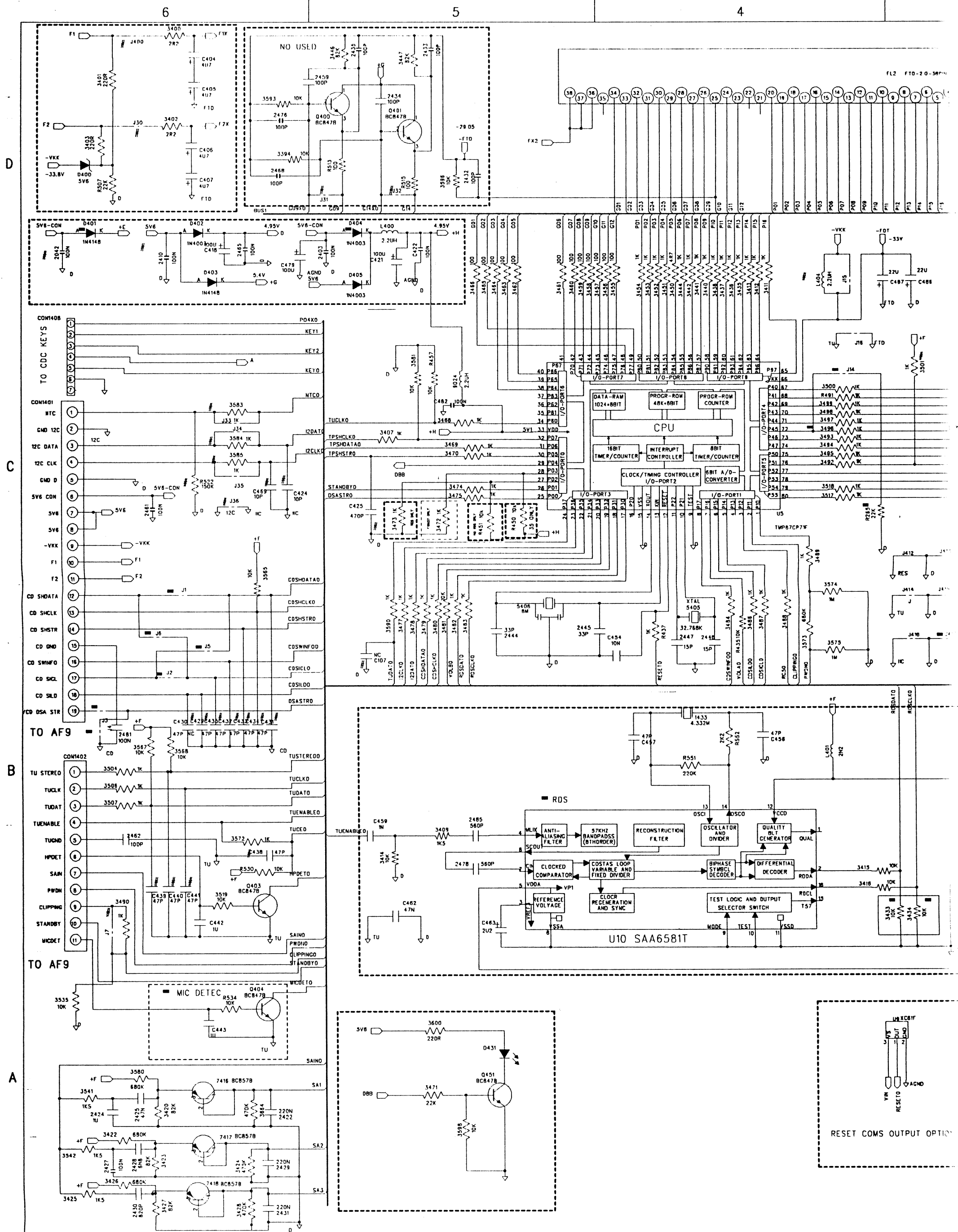


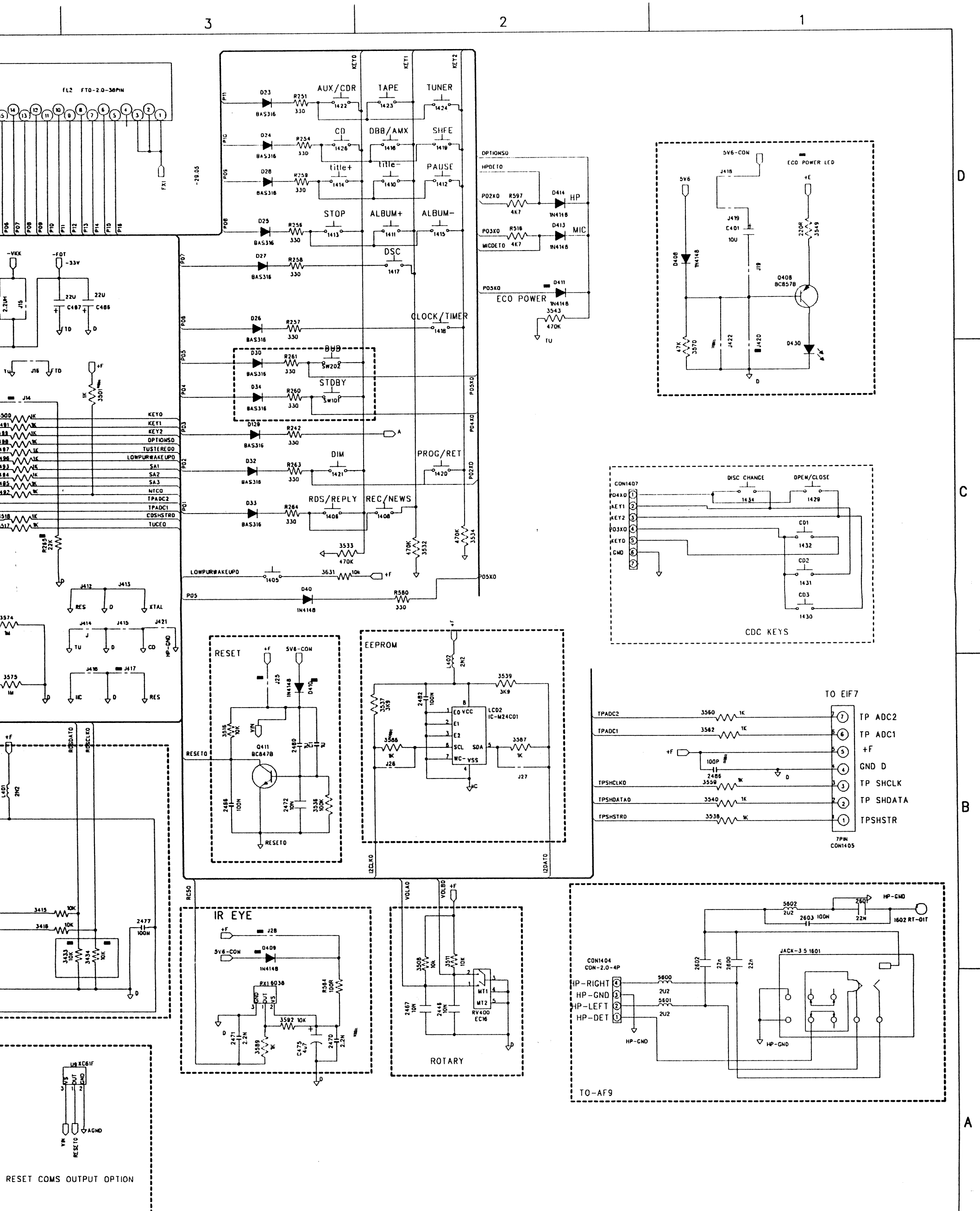
INTERNAL BLOCK DIAGRAM
POSITIVE VOLTAGE REGULATOR - IC KA7805



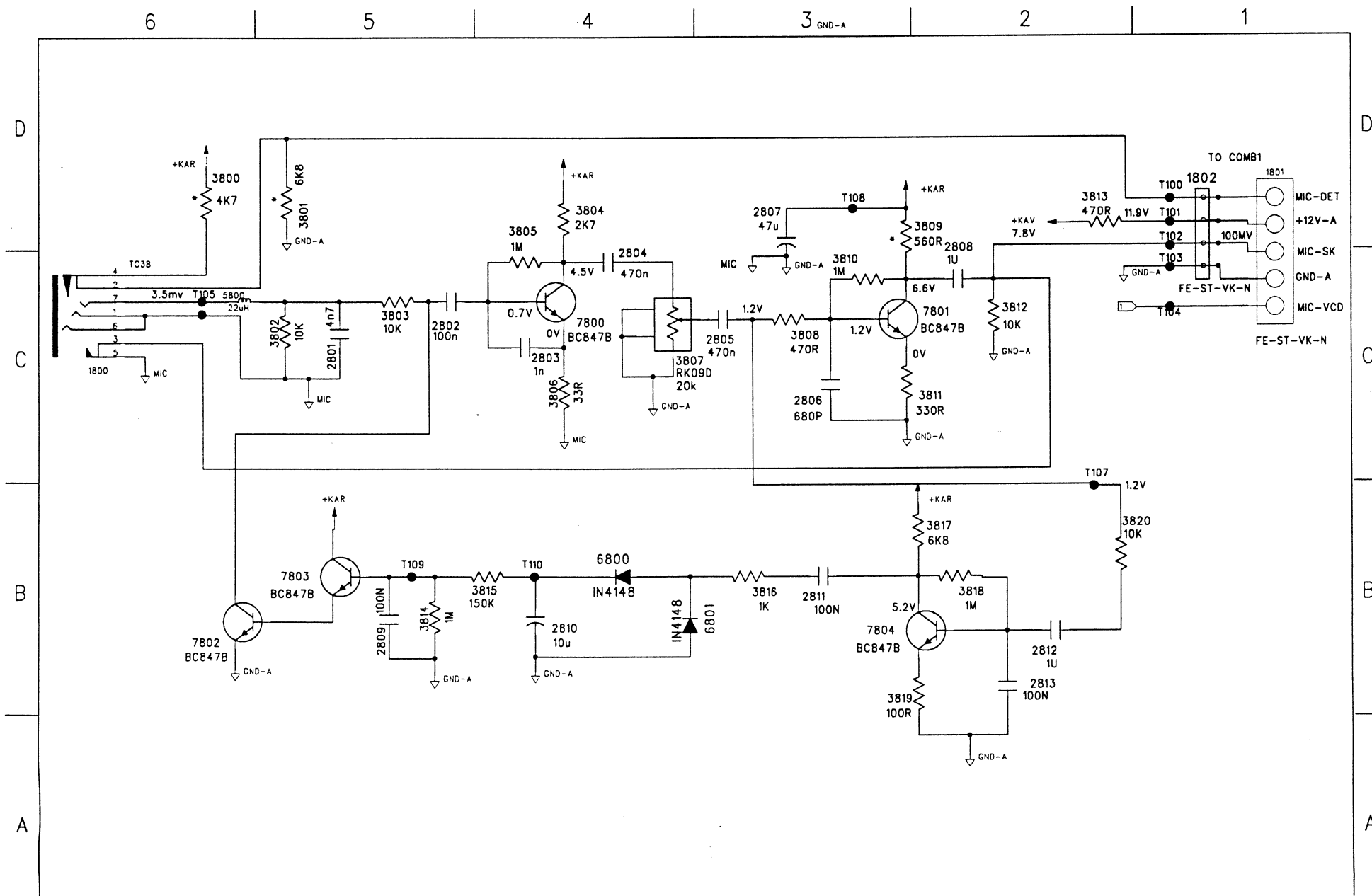
PCB LAYOUT - FRONT & KEY BOARD (TOP VIEW)







CIRCUIT DIAGRAM - FRONT BOARD (MIC PART)



ELECTRICAL PARTS - FRONT BOARD

1800	9940 000 01325	MICRO PHONE JACK D3.6 /21
1405	9940 000 01243	TACT SWITCH
1406	9940 000 01243	TACT SWITCH
1408	9940 000 01243	TACT SWITCH
1410	9940 000 01243	TACT SWITCH
1420	9940 000 01243	TACT SWITCH
1421	9940 000 01243	TACT SWITCH
1422	9940 000 01243	TACT SWITCH
1601	9940 000 01244	V/PHONE JACK 3.5MM
3807	9940 000 01324	ROTARY VOLUME 20K /21
5406	9940 000 01242	CER. RESONATOR 8.00M 2P
7400	9940 000 01238	IC TMP87PS71AF-QF80 /22
7400	9940 000 01339	IC TMP87PS71F /21/30
7404	9940 000 01236	IC M24C01-WMN6
D430	9940 000 01233	LED LAMP (MICRO)(RED)
D431	9940 000 01234	LED LAMP 3MM (RED)
FL1	9940 000 01235	FTD DISPLAY VFD70-1201FN
L600	9940 000 01211	TOROID COIL 180UH 10TX2
RV400	9940 000 01241	ROTARY ENCODER
U10	9352 686 05118	IC SM SAA6581T
	9940 000 01239	OPTIC SENSER

Note: Only these parts mentioned in the list are
normal service parts.

MAIN BOARD

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BRIEF INTRODUCTION OF THE MAIN BOARD

The Main Board consists of the following features :

a. TDA7468D

TDA7468D (IC704) provides the basic sound processing - loudness, bass, treble, volume & mute controls and source selection TUNER, TAPE, CD & AUX including Mic mixing for the set.

Sound features such as ALC, DBB, DSC and IS are controlled by the microprocessor IC on the Front Board via I²C Bus.

Undesirable noise during source switching are muted off by via the software of the microprocessor IC on the Front Board.

b. TDA8947J

The TDA8947J contains a unique protection circuit that is solely based on multiple temperature measurements inside the chip. This gives maximum output power for all supply voltages and load conditions with no unnecessary audio holes .

Almost any supply voltage and load impedance combination can be made as long as thermal boundary conditions (number of channels used, external heatsink and ambient temperature) allow it.

c. MIC MIXING

Simple Mic mixing is provided by pin 2 of TDA7468D. During Mic mixed a 1nF capacitor is connected across this pin to ground instead of a chip connector(0R).

d. HEADPHONE AMPLIFIER

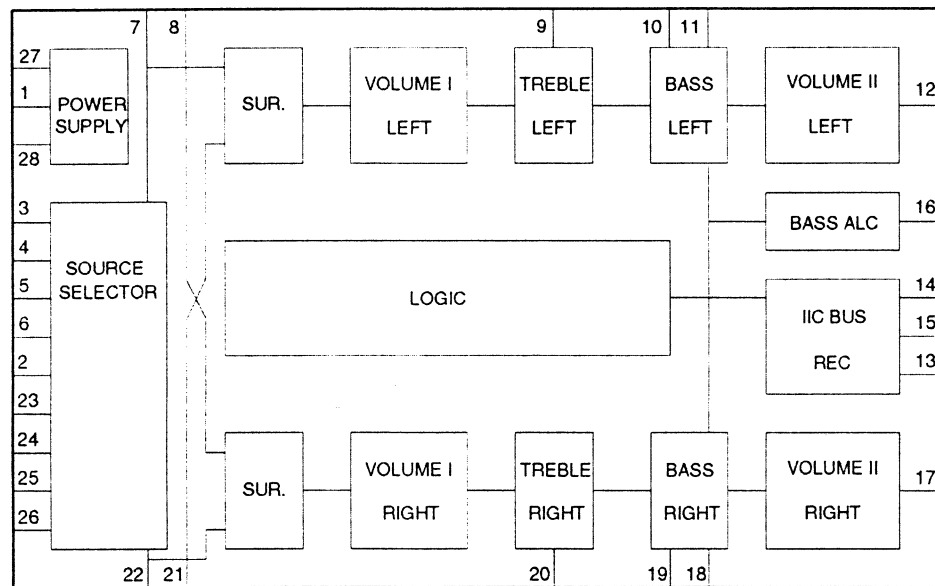
Headphone amplifier NJM4556AM is provided after the Sound processor to drive 32 ohm to 1kohm headphone.

Remark: 1) For ECO6 Tuner Part built in Main Board, refer to Chapter 7A & Chapter 7B.

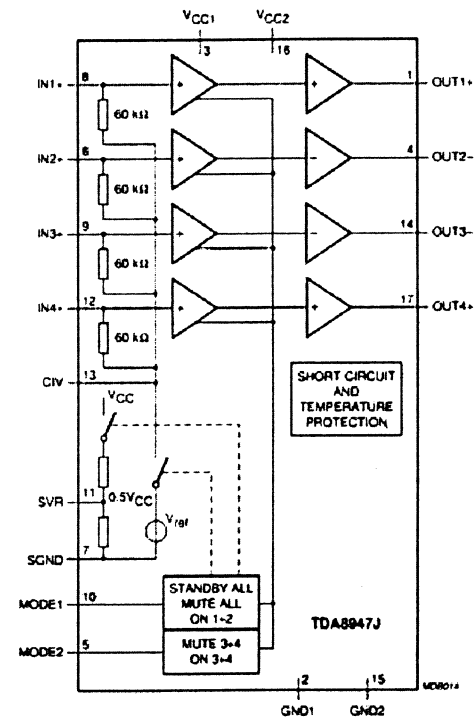
2) For Ver 22, whole Main Board Ass'y can be ordered with 12nc: 9940 000 01506.

INTERNAL BLOCK DIAGRAM IC TDA7468D

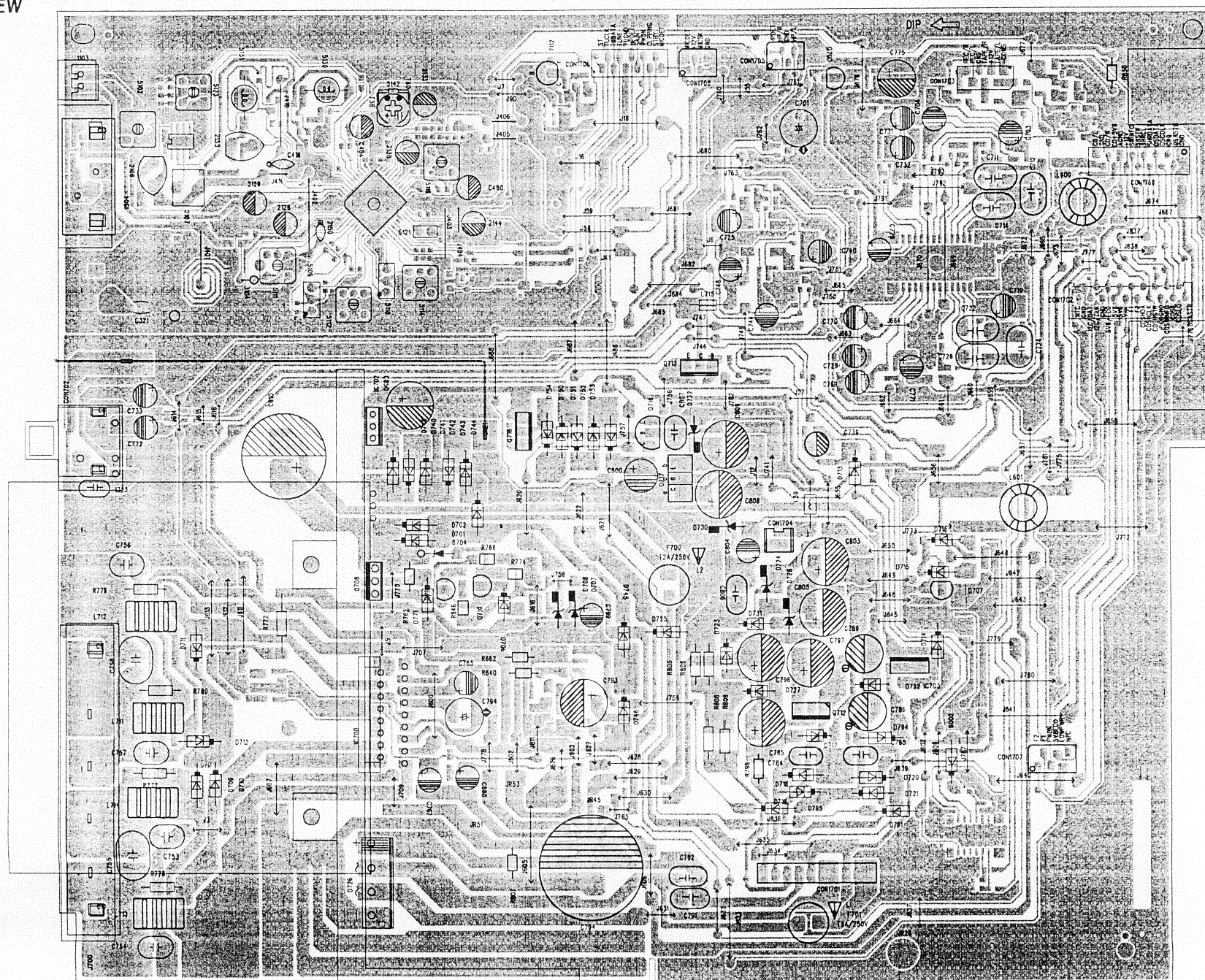
TDA7468



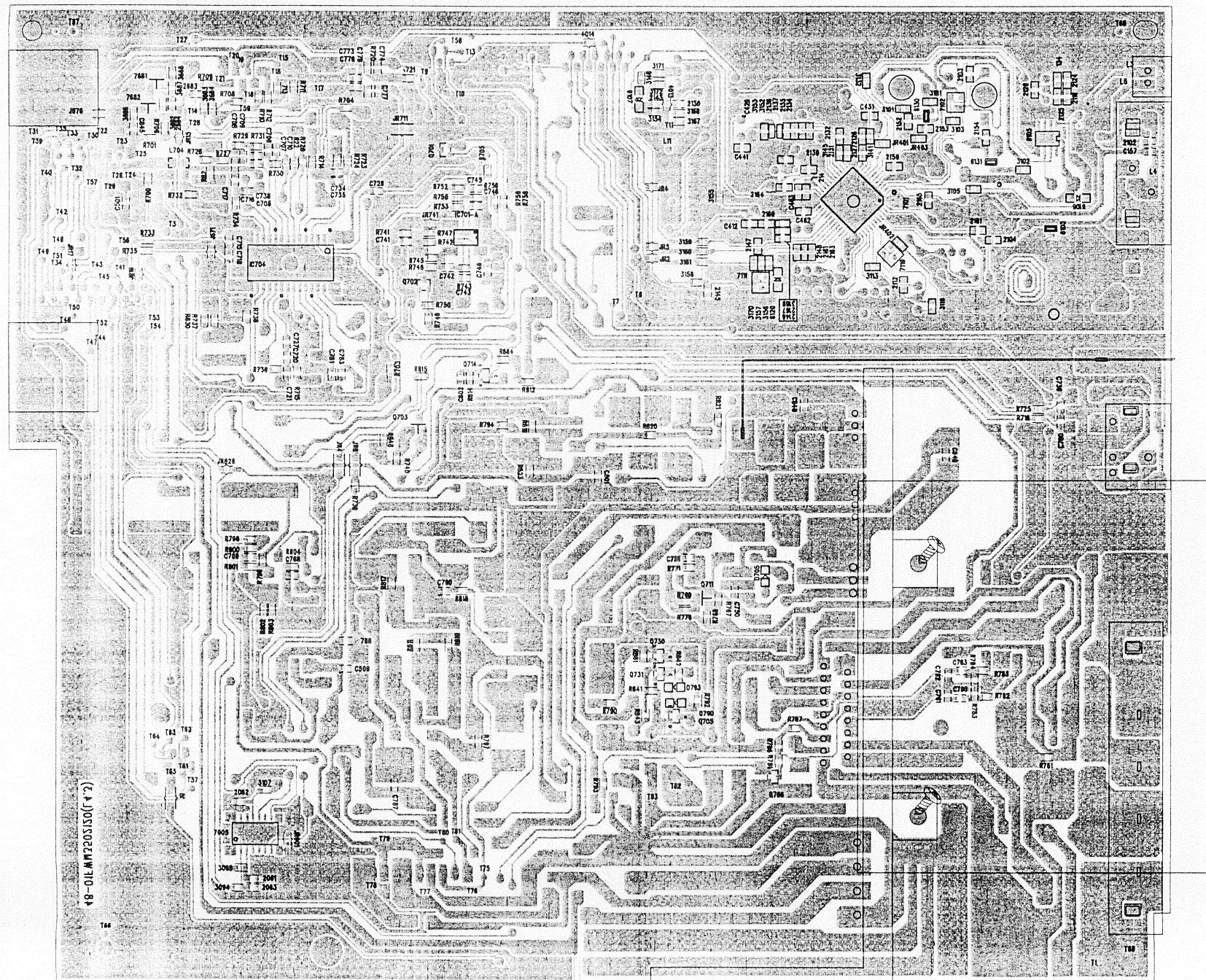
INTERNAL BLOCK DIAGRAM IC TDA8947J 4-CHANNEL AUDIO AMPLIFIER

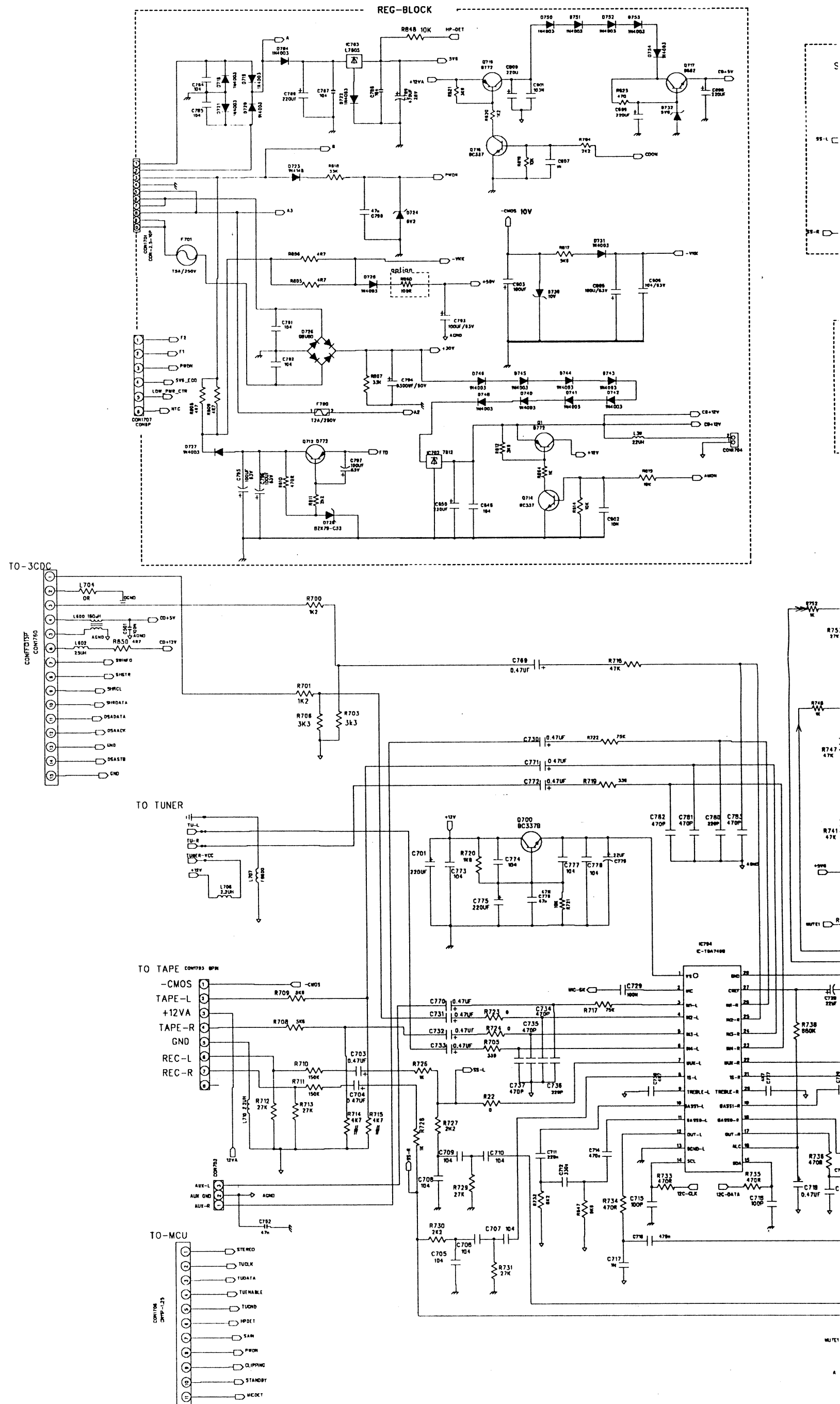


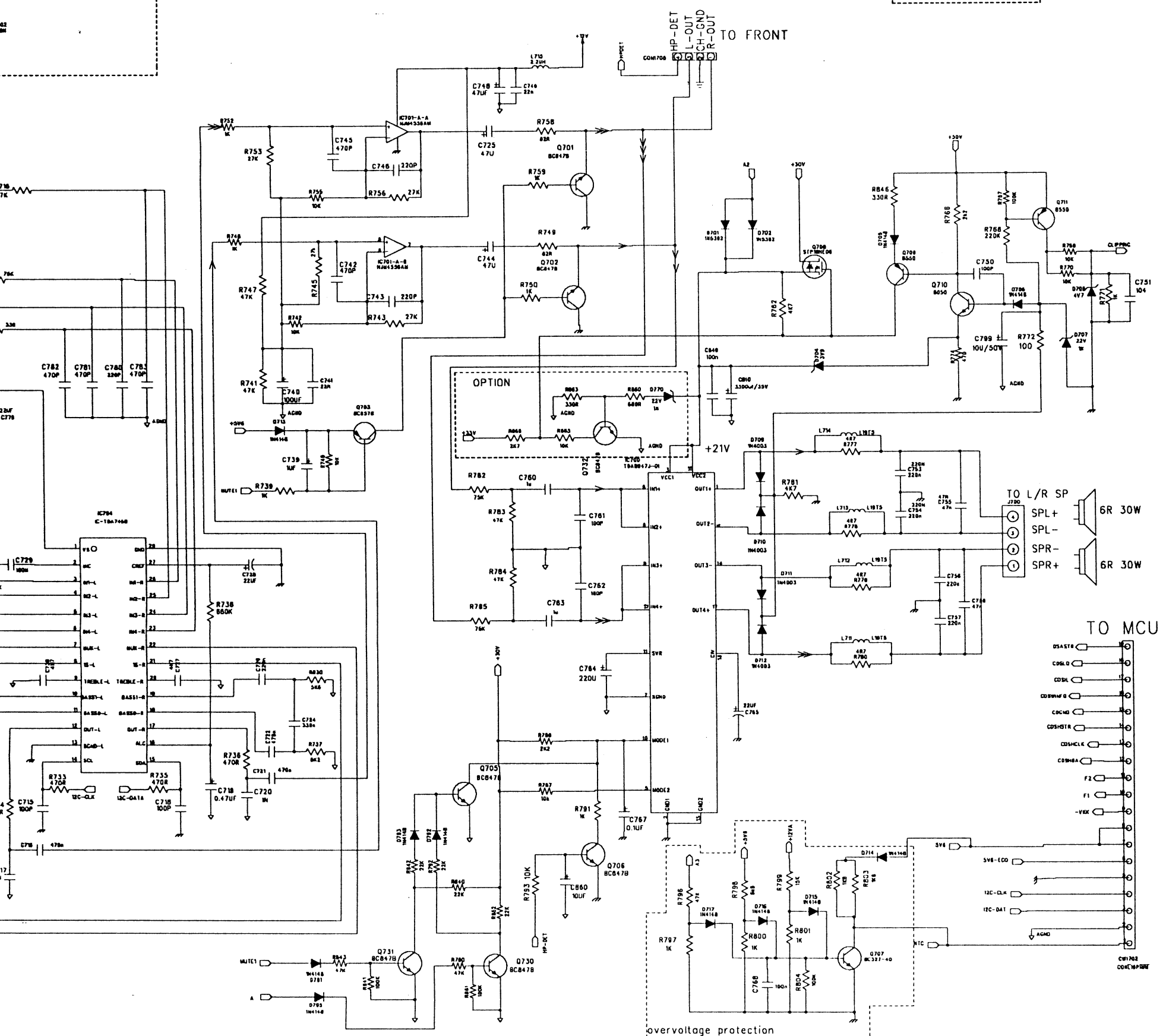
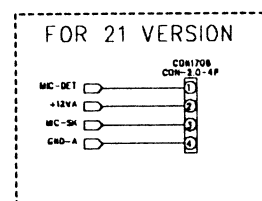
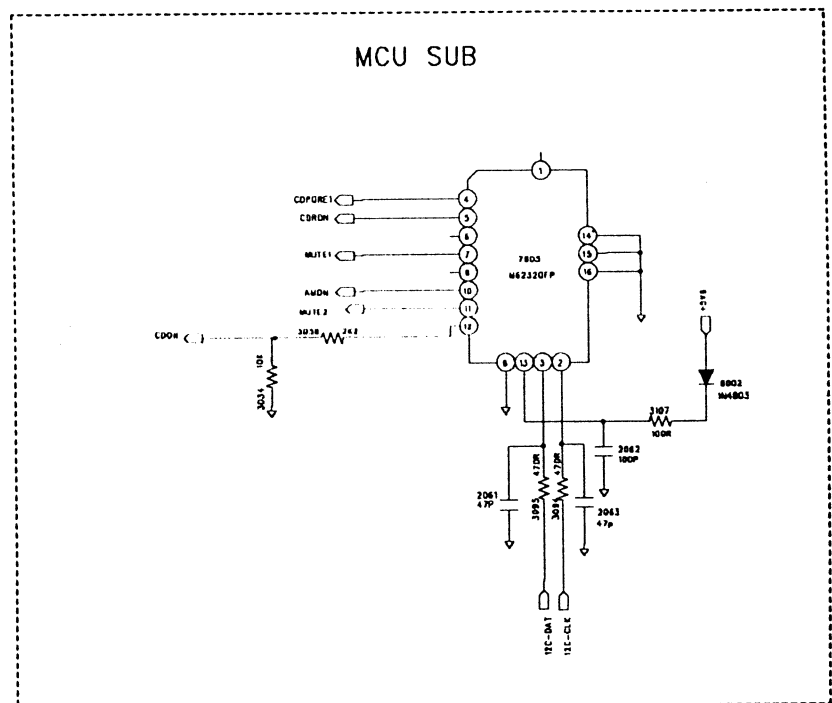
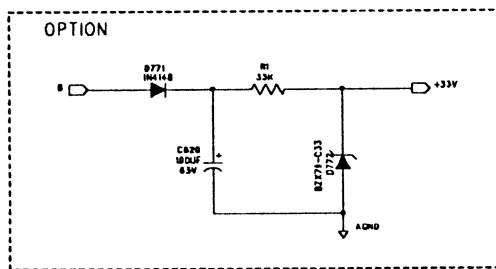
PCB LAYOUT - MAIN BOARD_for /21/30
TOP VIEW



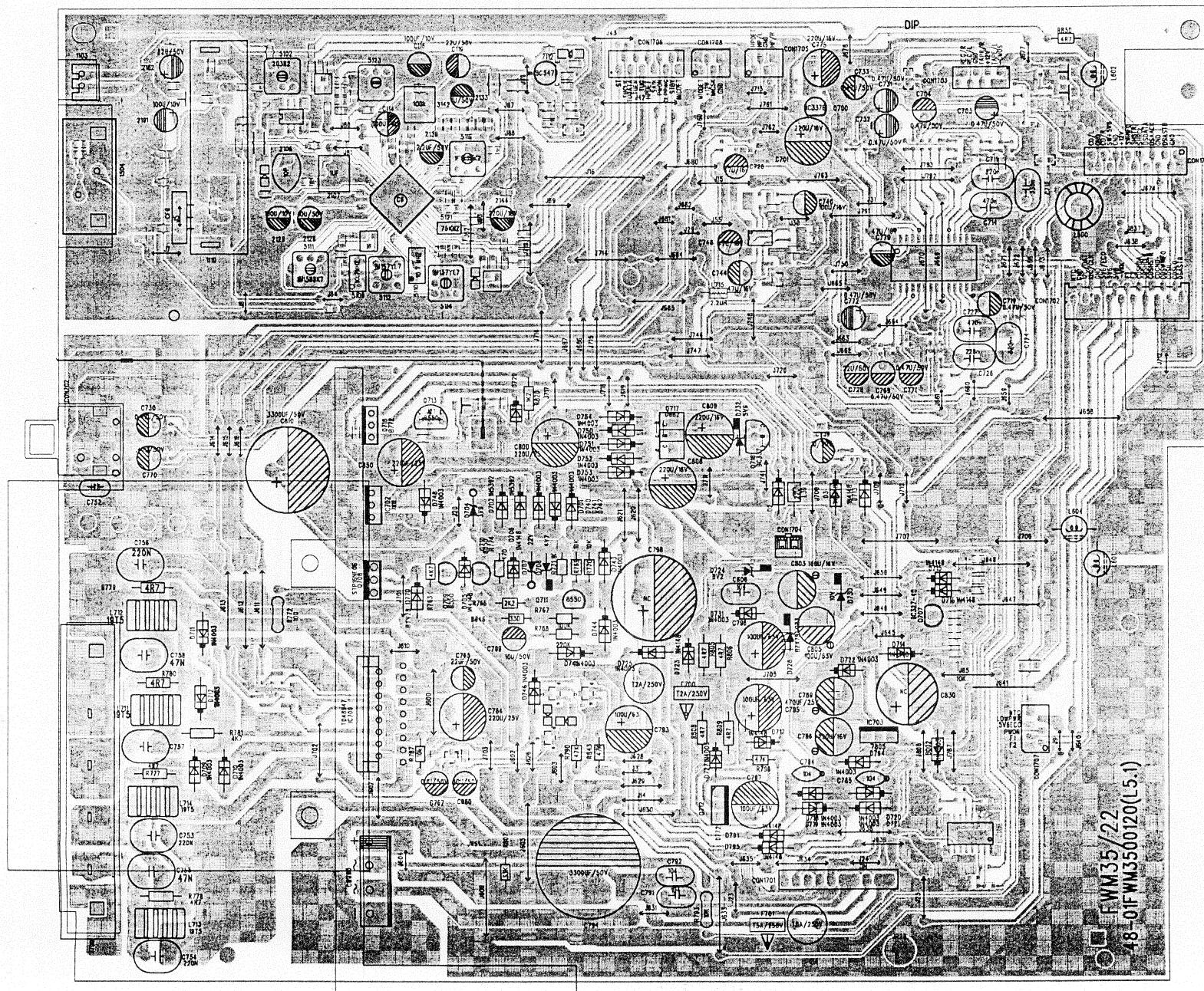
PCB LAYOUT - MAIN BOARD_for /21/30
BOTTOM VIEW



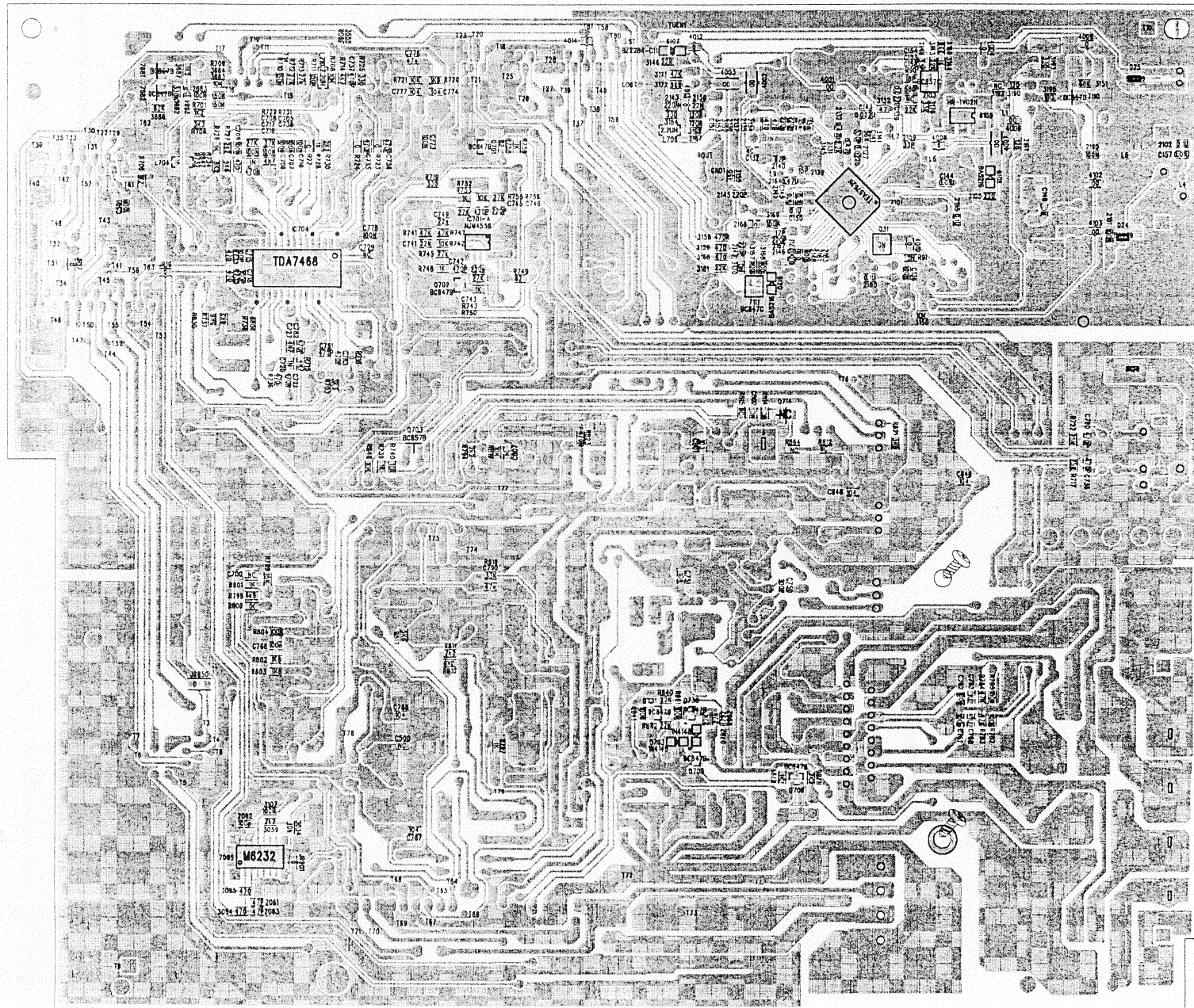




PCB LAYOUT - MAIN BOARD_for /22 (9940 000 01506)
TOP VIEW



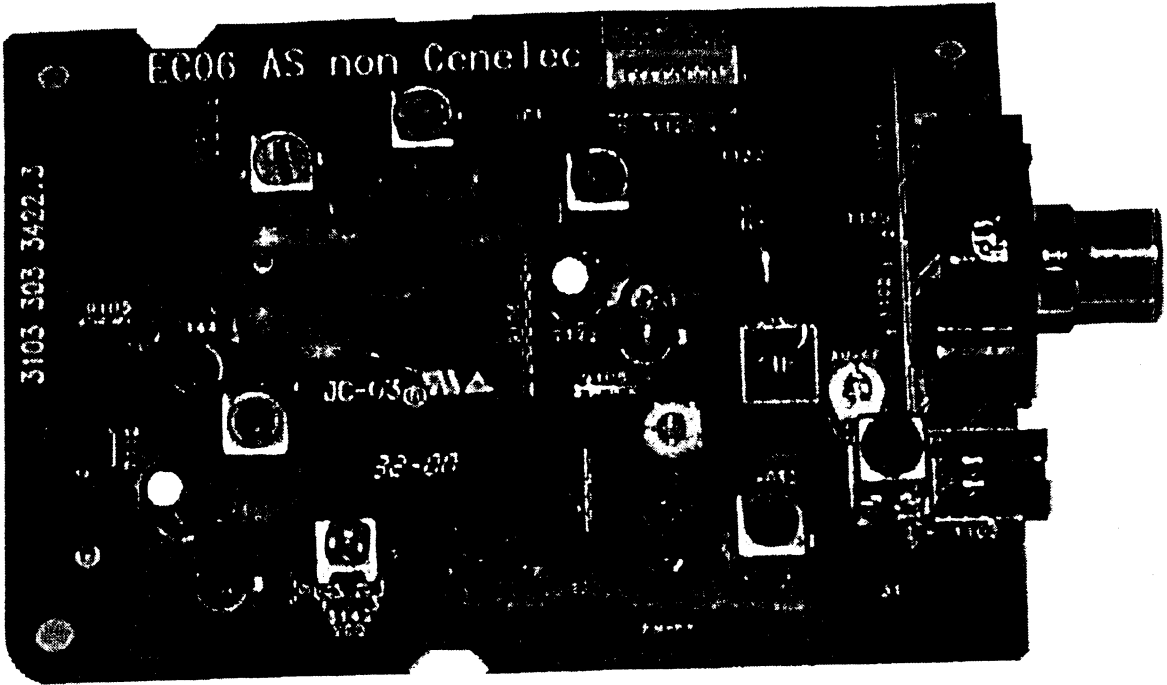
PCB LAYOUT - MAIN BOARD_for /22 (9940 000 01506)
BOTTOM VIEW



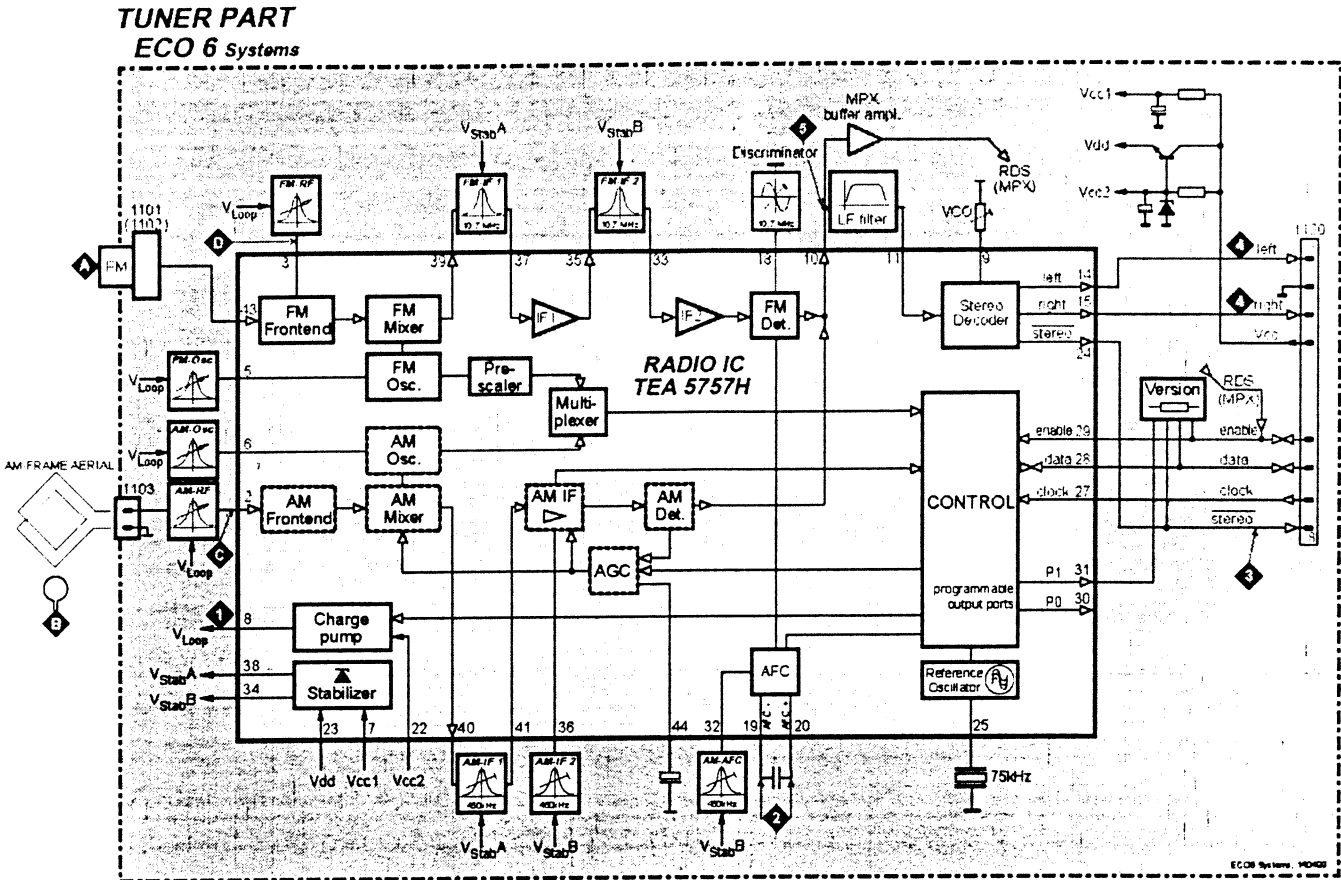
ELECTRICAL PARTS - MAIN BOARD

1110	9940 000 00256	TUNER (MITSUMI) FE450-G01
1504	9940 000 01218	COAXIAL JACK HIR-401V
2106	9940 000 01207	TRIMMER 10PF 6MM (WH)
5102	9940 000 01212	AM IFT (BLACK) 7MM
5109	9940 000 01208	CER. FILTER
5110	9940 000 01208	CER. FILTER
5111	9940 000 01213	AM IFT 7MM (BLACK)
5112	9940 000 01215	AM IFT 7MM (YELLOW)
5114	9940 000 01215	AM IFT 7MM (YELLOW)
5119	9940 000 01214	FM IFT 7MM (BLACK)
5123	9940 000 01216	AM OSC 7MM (BROWN)
7005	4822 209 17345	M62320FP
7101	9351 740 80557	IC TEA5757H/V1 /21
7101	9351 772 20557	IC SM TEA5762H/V1
C794	9940 000 01206	E.CAP 3300UF 50V +/-20%
C810	9940 000 01205	E.CAP 3300UF 35V +/-20%
CON702	9940 000 01221	V/RCA JACK 2P
D726	4822 130 11139	GBU8D
F700 Δ	9940 000 01222	FUSE RADIAL LT 2A 250V
F701 Δ	9940 000 01223	FUSE RADIAL T5A 250V
IC700	9940 000 01203	IC TDA8947J/N3
IC701	5322 209 15853	IC NJM4556AM
IC702	4822 209 90087	IC KA7812
IC703	9965 000 14344	IC KA7805
IC704	9322 150 74668	IC TDA7468D
J700	9940 000 01219	SPK JACK (RD/BLK/BLK/RD)
L602	9940 000 01209	TOROID COIL 25μH
L711	9940 000 01217	AIR COIL 6X18.5T (0.5MM)
L712	9940 000 01217	AIR COIL 6X18.5T (0.5MM)
L713	9940 000 01217	AIR COIL 6X18.5T (0.5MM)
L714	9940 000 01217	AIR COIL 6X18.5T (0.5MM)
Q708	4822 130 11336	STP16NF06FP
Q712	9940 000 01193	TRANSISTORS KSB772YS
Q717	9940 000 01194	TRANSISTORS KSD882Y
Q718	9940 000 01193	TRANSISTORS KSB772YS
	9940 000 01322	COAXIAL JACK /21

Note: Only these parts mentioned in the list are
normal service parts.



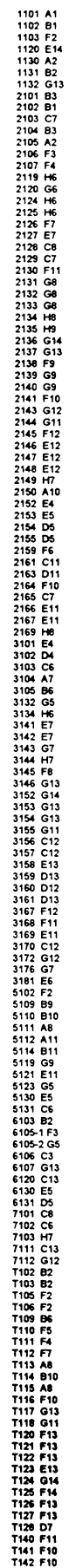
BLOCK DIAGRAM



ECO6 Tuner Part
version: *SYSTEMS non-CENELEC*

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Component Layout.....7A-3
Adjustment table 7A-3
Electrical Partslist.....7A-4



(p)...for provision only
 USA ... for USA version only
 E-EU ... for East European version only
 J ... for Japanese version only


 ...V FM mode stereo

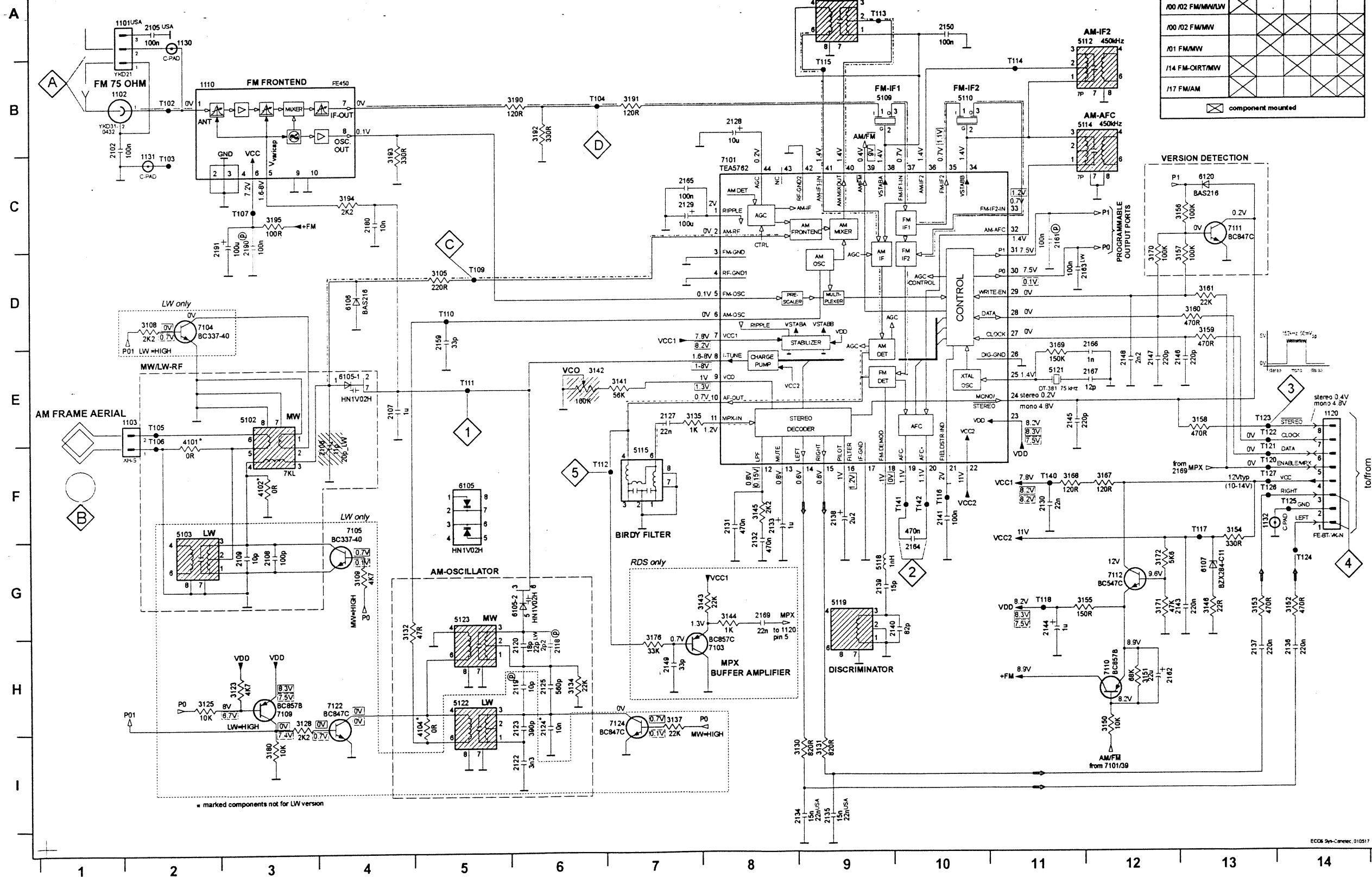
 ...V MW mode

 ...V LW mode
 voltages measured while
 set is tuned to a strong transmitter

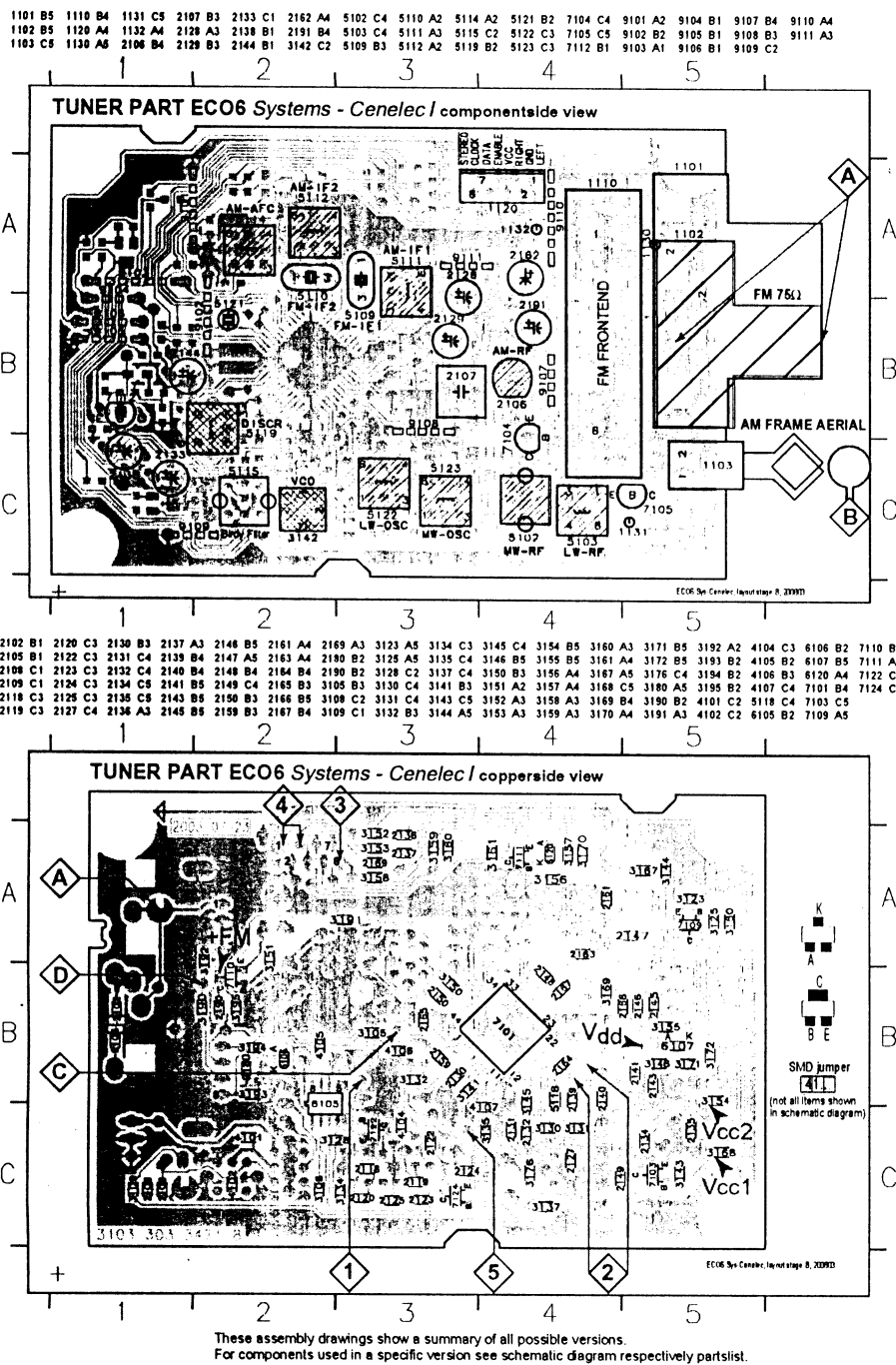
Signal path

- FM
- - - AM
- - - MPX (Audio Frequency)
- ⇒ AF - left/right

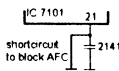
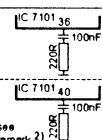
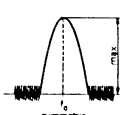
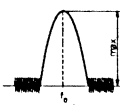
TUNER PART ECO6 / SYSTEMS-CENELEC



1101 A2	5121 E11
1102 B1	5122 H5
1103 E2	5123 G5
1110 B2	6105-1 E4
1120 E14	6105-2 G6
1130 A2	6106 D4
1131 C2	6107 G13
1132 F13	6120 C13
2102 B1	7101 C8
2105 A2	7103 H8
2106 E3	7104 D2
2107 E4	7105 F4
2108 G3	7106 H3
2109 G3	7110 H12
2118 H6	7111 C13
2119 H6	7112 G12
2120 H6	7122 H4
2122 H6	7124 H7
2123 H6	7102 B2
2124 H6	7103 B2
2125 H6	7104 B6
2127 E7	7105 E2
2128 B8	7106 E2
2129 C7	7107 C3
2130 F11	7109 D5
2131 F8	7110 D5
2132 F8	7111 E5
2133 F8	7112 F7
2134 H8	7113 A8
2135 H8	7114 B11
2136 H14	7116 F10
2137 H13	7117 F13
2138 F9	7118 G11
2139 G9	7120 F13
2140 G9	7121 F13
2141 F10	7122 E13
2143 G12	7123 E13
2144 G11	7124 G14
2145 E11	7125 F14
2146 E12	7126 F13
2147 E12	7127 F13
2148 E12	7140 F11
2149 H7	7141 F10
2150 A10	7142 F10
2155 D5	
2161 C11	
2162 H12	
2163 D11	
2164 G10	
2165 C7	
2166 E11	
2167 E11	
2169 G8	
2180 C4	
2190 C3	
2191 C3	
2195 D5	
2198 D2	
2199 G4	
2123 H3	
2125 H2	
2126 H3	
2128 H3	
2130 H3	
2131 H3	
2132 H3	
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2165 H3	
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2186 H3	
2187 H3	
2188 H3	
2189 H3	
2190 H3	
2191 H3	
2192 H3	
2193 H3	
2194 H3	
2195 H3	
2196 H3	
2197 H3	
2198 H3	
2199 H3	
2200 H3	



TUNER ADJUSTMENT TABLE (ECO6 Cenelec FM/MW - and FM/MW/LW - versions with AM-frame aerial)

Wavrange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50kHz grid)			108MHz	check	1	8V ±1.2V
			87.5MHz	check		1.6V ±0.5V
MW 531 - 1602kHz (9kHz grid)			1602kHz	5123		8V ±0.2V 3-band 6.9V ±0.2V 2-band
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz (3kHz grid)			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
FM - IF						
FM	10.7MHz, 45mV continuous wave	D		5119	2	0mV ±3mV
FM - VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz ¹⁾
Note: The FM-frontend unit has already been adjusted by the factory and needs therefore no further adjustments for service purposes.						
FM	98MHz, 1mV 90% Left + 9% pilot mod=1kHz	A	98MHz	IF coil inside FM frontend 1110	4	right channel min
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C		5111	5	
			5112			
AM AFC MW		C	continuous wave V _{RF} = 2mV	5114	2	0mV ±2mV
AM RF ³⁾						
MW	1494kHz	B	1494kHz	2106	5	
	558kHz		558kHz	5102		
LW	198kHz	Δf = ±30kHz V _{RF} as low as possible	198kHz	5103		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- 1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)
- 2) RC network serves for damping the IF-filter while adjusting the other one.
- 3) For AM RF adjustments the original frame antenna has to be used!
MW has to be aligned before LW.

Repeat

Electrical Partslist ECO6 SYSTEMS-CENELEC

MISCELLANEOUS

1101	2422 015 19376	SOCKET CLICKFIT 2P	USA only
1102	4822 267 10283	SOCKET COAX, IEC 75Ω	not USA
1103	4822 265 31184	JST CONNECTOR, 2 POLE	
1110	2422 542 90071	FM FRONTEND	
1120	4822 265 11515	FFC SOCKET, 8P	

CAPACITORS

2102	4822 126 13838	100nF 10% 50V	not USA
2105	4822 126 13838	100nF 10% 50V	USA only
2106	2020 800 00204	TRIMCAP. 4,2 - 20pF, N750	LW only
2106	2020 800 00191	TRIMCAP. 3 - 11pF, N450	FM/AM only
2107	4822 121 51319	1μF 20% 50V	
2108	5322 122 32531	100pF 5% 50V	LW only
2109	5322 122 32448	10pF 5% 50V	LW only
2120	4822 126 13689	18pF 1% 63V	FM/AM only
2120	5322 122 32658	22pF 5% 50V	LW only
2122	4822 122 33891	3.3nF 10% 63V	LW only
2123	2020 552 93494	390pF 1% 50V	LW only
2124	4822 122 33177	10nF 20% 50V	FM/AM only
2125	2020 552 96199	560pF 1% 50V	
2127	4822 126 14076	220nF 20% 25V	
2128	4822 124 40248	10μF 20% 63V	
2129	4822 124 41584	100μF 20% 10V	
2130	5322 122 32654	22nF 10% 63V	
2131	4822 126 13482	470nF 20% 16V	
2132	4822 126 13482	470nF 20% 16V	
2133	4822 124 21913	1μF 20% 63V	
2134	3198 017 31530	15nF 10% 50V	not USA
2134	5322 122 32654	22nF 10% 63V	USA only
2135	3198 017 31530	15nF 10% 50V	not USA
2135	3198 017 32230	22nF 10% 25V	USA only
2136	4822 126 14076	220nF 20% 25V	
2137	4822 126 14076	220nF 20% 25V	
2138	4822 124 22652	2.2μF 20% 50V	
2139	4822 126 14236	15pF 5% 50V	
2140	4822 126 13695	82pF 1% 63V	
2141	4822 126 13838	100nF 10% 50V	
2143	4822 126 14076	220nF 20% 25V	
2144	4822 124 21913	1μF 20% 63V	
2145	4822 122 33575	220pF 5% 50V	
2146	4822 122 33575	220pF 5% 50V	
2147	4822 122 33575	220pF 5% 50V	
2148	4822 122 33127	2.2nF 10% 63V	
2149	5322 122 32659	33pF 5% 50V	RDS only
2150	4822 126 13838	100nF 10% 50V	
2159	5322 122 31151	22μF 20% 50V	
2163	4822 126 13838	100nF 10% 50V	LW only
2164	4822 126 13482	470nF 20% 16V	
2165	4822 126 13838	100nF 10% 50V	
2166	5322 122 31647	1nF 10% 63V	
2167	4822 122 33926	12pF 5% 50V	
2169	4822 122 33127	2.2nF 10% 63V	RDS only
2180	3198 017 31030	10nF 10% 50V	
2190	4822 126 13838	100nF 10% 50V	
2191	4822 124 40178	100μF 20% 10V	

RESISTORS

3105	4822 117 11503	220Ω 5% 0.1W	
3108	4822 117 11449	2.2kΩ 1% 0.1W	LW only
3109	4822 051 20472	4.7kΩ 5% 0.1W	LW only
3123	4822 051 20472	4.7kΩ 5% 0.1W	LW only
3125	4822 117 10833	10kΩ 1% 0.1W	LW only

RESISTORS

3128	4822 117 11449	2.2kΩ 1% 0.1W	LW only
3130	3198 021 38210	820Ω 5% 0.06W	
3131	3198 021 38210	820Ω 5% 0.06W	
3132	4822 051 20479	47Ω 5% 0.1W	
3134	4822 051 20223	22kΩ 5% 0.1W	
3135	3198 021 31020	1kΩ 5% 0.06W	
3137	4822 051 20223	22kΩ 5% 0.1W	LW only
3141	4822 117 11148	56kΩ 1% 0.1W	
3142	4822 100 12159	TRIMPOT. 100kΩ	
3143	4822 051 20223	22kΩ 5% 0.1W	RDS only
3144	4822 051 10102	1kΩ 2% 0.25W	RDS only
3145	4822 117 11449	2.2kΩ 1% 0.1W	
3146	4822 051 20229	22Ω 5% 0.1W	
3150	4822 117 10833	10kΩ 1% 0.1W	
3151	4822 051 20683	68kΩ 5% 0.1W	
3152	4822 051 20471	470Ω 5% 0.1W	
3153	4822 051 20471	470Ω 5% 0.1W	
3154	4822 117 13577	330Ω 1% 0.1W	
3155	4822 117 10353	150Ω 5% 0.1W	
3156	4822 117 10837	100kΩ 1% 0.1W	
3157	4822 117 10837	100kΩ 1% 0.1W	
3158	4822 051 20471	470Ω 5% 0.1W	
3159	4822 051 20471	470Ω 5% 0.1W	
3160	4822 051 20471	470Ω 5% 0.1W	
3161	4822 051 20223	22kΩ 5% 0.1W	
3167	4822 051 20121	120Ω 5% 0.1W	
3168	4822 051 20121	120Ω 5% 0.1W	
3169	4822 051 20154	150kΩ 5% 0.1W	
3170	4822 117 10837	100kΩ 1% 0.1W	
3171	4822 117 10834	47kΩ 1% 0.1W	
3172	4822 051 20562	5.6kΩ 5% 0.1W	RDS only
3176	4822 051 20333	33kΩ 5% 0.1W	LW only
3180	4822 117 10833	10kΩ 1% 0.1W	
3190	4822 051 20121	120Ω 5% 0.1W	
3191	4822 051 20121	120Ω 5% 0.1W	
3192	4822 117 13577	330Ω 1% 0.1W	
3193	4822 117 13577	330Ω 1% 0.1W	
3194	4822 117 11449	2.2kΩ 1% 0.1W	
3195	4822 051 20101	100Ω 5% 0.1W	
4101	4822 051 20008	CHIP JUMPER 0805	FM/AM only
4102	4822 051 20008	CHIP JUMPER 0805	FM/AM only
4104	4822 051 20008	CHIP JUMPER 0805	FM/AM only
4105	4822 051 20008	CHIP JUMPER 0805	
4106	4822 051 20008	CHIP JUMPER 0805	
4107	4822 051 20008	CHIP JUMPER 0805	

COILS

5102	4822 157 71634	RF-COIL MW	
5103	2422 549 44107	RF-COIL LW	LW only
5109	4822 157 71639	FM-IF FILTER 10.7MHz	
5110	4822 242 70665	FM-IF FILTER 10.7MHz	
5111	2422 549 44023	AM-IF FILTER 450kHz	

5112	4822 157 70302	AM-IF FILTER 450kHz	
5114	4822 157 70302	AM-IF FILTER 450kHz	
5115	4822 157 71636	ANTI BIRDY FILTER	
5118	2422 535 95881	100nH	
5119	4822 157 11443	DISCRIMINATOR COIL	

5121	4822 242 10261	QUARTZ 75kHz	
5122	2422 549 44108	RF-COIL, LW-OSCILLATOR	LW only
5123	2422 549 44108	RF-COIL, MW-OSCILLATOR	

DIODES

6105	4822 130 83075	HN1V02H	
6106	4822 130 83757	BAS216	
6107	9340 386 90115	BZX284-C11	
6120	4822 130 83757	BAS216	

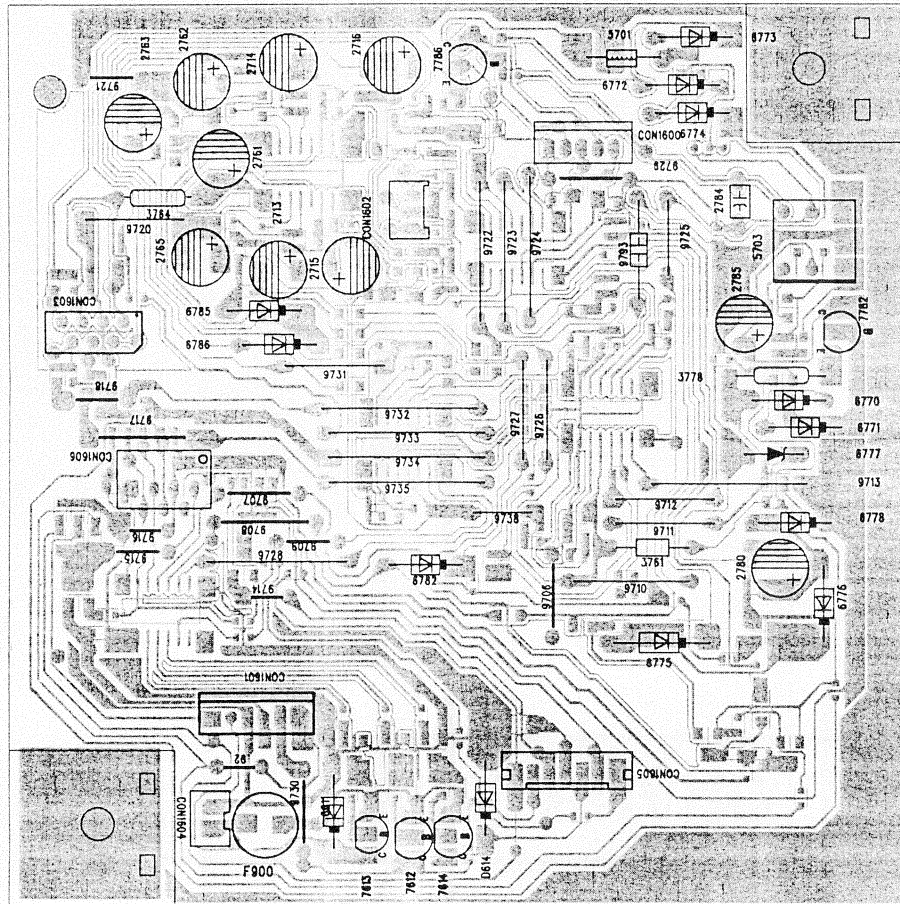
TRANSISTORS

7103	5322 130 42756	BC857C	RDS only
7104	9322 003 64676	TBC337-40	LW only
7105	9322 003 64676	TBC337-40	LW only
7109	4822 130 60373	BC856B	LW only
7110	4822 130 60373	BC856B	LW only
7111	5322 130 42755	BC847C	
7112	4822 130 44503	BC547C	
7122	5322 130 42755	BC847C	LW only
7124	5322 130 42755	BC847C	LW only

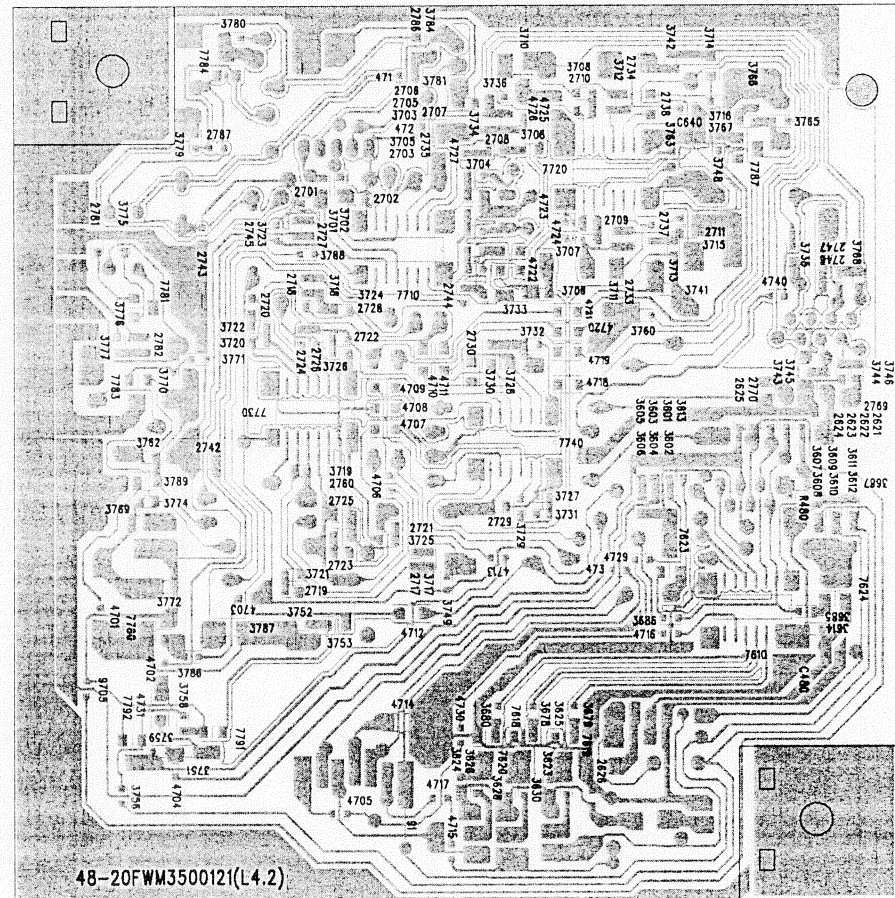
INTEGRATED CIRCUITS

7101	4822 209 90315	TEA5762HV1, RADIO IC	
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PCB LAYOUT - TAPE BOARD (TOP VIEW)



PCB LAYOUT - TAPE BOARD (BOTTOM VIEW)

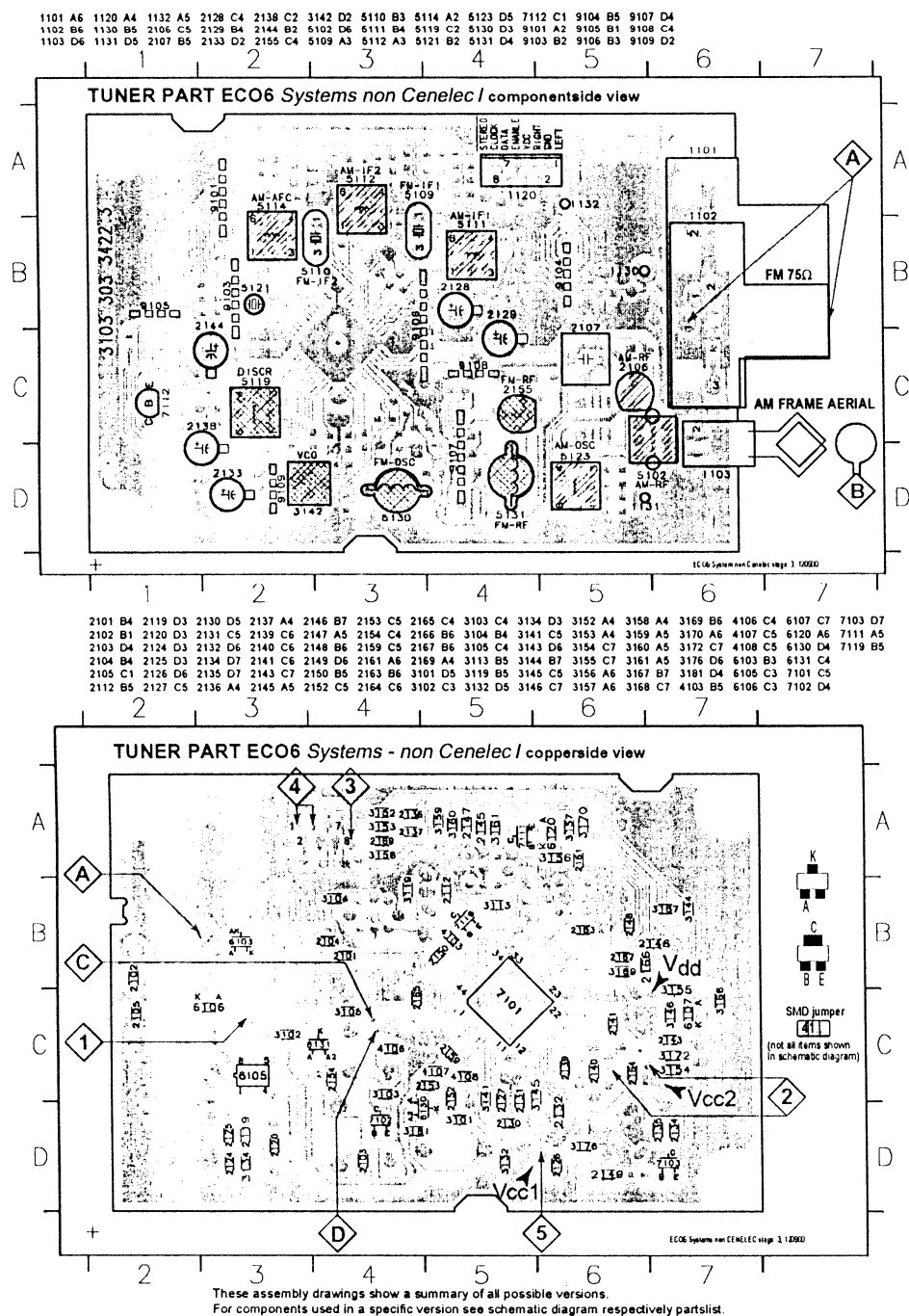


TAPE BOARD

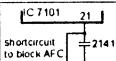
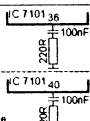
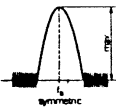
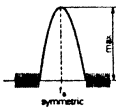
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PCB Layout Top View	8-2
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Remark: For Ver. 22, the whole Tape Board Ass'y can be orderd with 12nc: 9940 000 01508



TUNER ADJUSTMENT TABLE (ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (65.81 - 74.875 - 108MHz)			108MHz	5130	1	8V ± 0.2V
			87.5MHz (65.81MHz)	check		4.3V ± 0.5V (1.2V ± 0.5V)
MW FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ± 0.2V
			530kHz	check		1.1V ± 0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		6.9V ± 0.2V
			531kHz	check		1.1V ± 0.4V
LW 153 - 279kHz			279kHz	5122		8V ± 0.2V
			153kHz	check		1.1V ± 0.4V
MW FM/MW/LW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ± 0.2V
			531kHz	check		1.1V ± 0.4V
FM IF						
FM	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC
FM RF						
FM 87.5 - 108MHz (65.81 - 74.875 - 108MHz)	108MHz	A	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	87.5MHz (65.81MHz)	5131		
VCO						
FM	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ± 1kHz ¹⁾
AM IF						
MW	450kHz	C		5111	5	
	connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc		Δf=±10kHz V _{RF} = 0.5mV (as low as possible) see remark 2)	5112		
AM AFC		C		5114	2	0 ± 2 mV DC
AM RF ³⁾						
MW ⁴⁾ FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	B	1494kHz	2106	5	
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz		Δf = ±30kHz V _{RF} as low as possible	560kHz		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

¹⁾ If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)²⁾ RC network serves for damping the IF-filter while adjusting the other one.³⁾ For AM RF adjustments the original frame antenna has to be used!⁴⁾ MW has to be aligned before LW.

Repeat

Electrical Partslist ECO6 SYSTEMS NON-CENELEC

MISCELLANEOUS

1101	2422 015 19376	SOCKET 2P CLICKFIT	USA only
1102	4822 267 10283	SOCKET COAX, IEC 75Ω	not USA
1103	4822 265 31184	JST CONNECTOR 2 POLE	
1120	4822 265 11515	FFC SOCKET, 8P	

CAPACITORS

2101	4822 126 13692	47pF	1%	63V	
2102	4822 126 13638	100nF	10%	50V	not USA
2103	5322 122 31647	1nF	10%	63V	
2104	5322 122 32631	100pF	5%	50V	
2105	4822 126 13638	100nF	10%	50V	USA only
2106	2020 800 00191	3-11pF TRIMCAP, N450			
2107	4822 121 51319	1μF	20%	50V	
2120	4822 126 13689	18pF	1%	63V	
2124	5322 122 32654	22nF	10%	63V	
2125	2020 562 96199	560pF	1%	50V	
2126	5322 122 31863	330pF	5%	50V	
2127	4822 126 14076	220nF	20%	25V	
2128	4822 124 40248	10μF	20%	63V	
2129	4822 124 41584	100μF	20%	10V	
2130	5322 122 32654	22nF	10%	63V	
2131	4822 126 13482	470nF	20%	16V	
2132	4822 126 13482	470nF	20%	16V	
2133	4822 124 21913	1μF	20%	63V	
2134	4822 126 13188	15nF	5%	63V	not USA
2134	5322 122 32654	22nF	10%	63V	USA only
2135	4822 126 13188	15nF	5%	63V	not USA
2135	5322 122 32654	22nF	10%	63V	USA only
2136	4822 126 14076	220nF	20%	25V	
2137	4822 126 14076	220nF	20%	25V	
2138	4822 124 22652	2.2μF	20%	50V	
2139	4822 126 14236	15pF	5%	50V	
2140	4822 126 13695	82pF	1%	63V	
2141	4822 126 13638	100nF	10%	50V	
2143	4822 126 14076	220nF	20%	25V	
2144	4822 124 21913	1μF	20%	63V	
2145	4822 122 33575	220pF	5%	50V	
2146	4822 122 33575	220pF	5%	50V	
2147	4822 122 33575	220pF	5%	50V	
2148	4822 122 33127	2.2nF	10%	63V	
2149	5322 122 32659	33pF	5%	50V	RDS only
2150	4822 126 13638	100nF	10%	50V	
2152	4822 126 12105	33nF	5%	63V	not for East Europe
2152	5322 116 80853	560pF	5%	63V	for East Europe only
2153	4822 126 13486	15pF	2%	63V	not for East Europe
2153	4822 122 33926	12pF	2%	50V	for East Europe only
2155	2020 800 00191	3-11pF TRIMCAP, N450			
2159	5322 122 32659	33pF	5%	50V	
2164	4822 126 13482	470nF	20%	16V	
2165	4822 126 13638	100nF	10%	50V	
2166	5322 122 31647	1nF	10%	63V	
2167	4822 122 33926	12pF	5%	50V	
2169	4822 122 33127	2.2nF	10%	63V	RDS only

RESISTORS

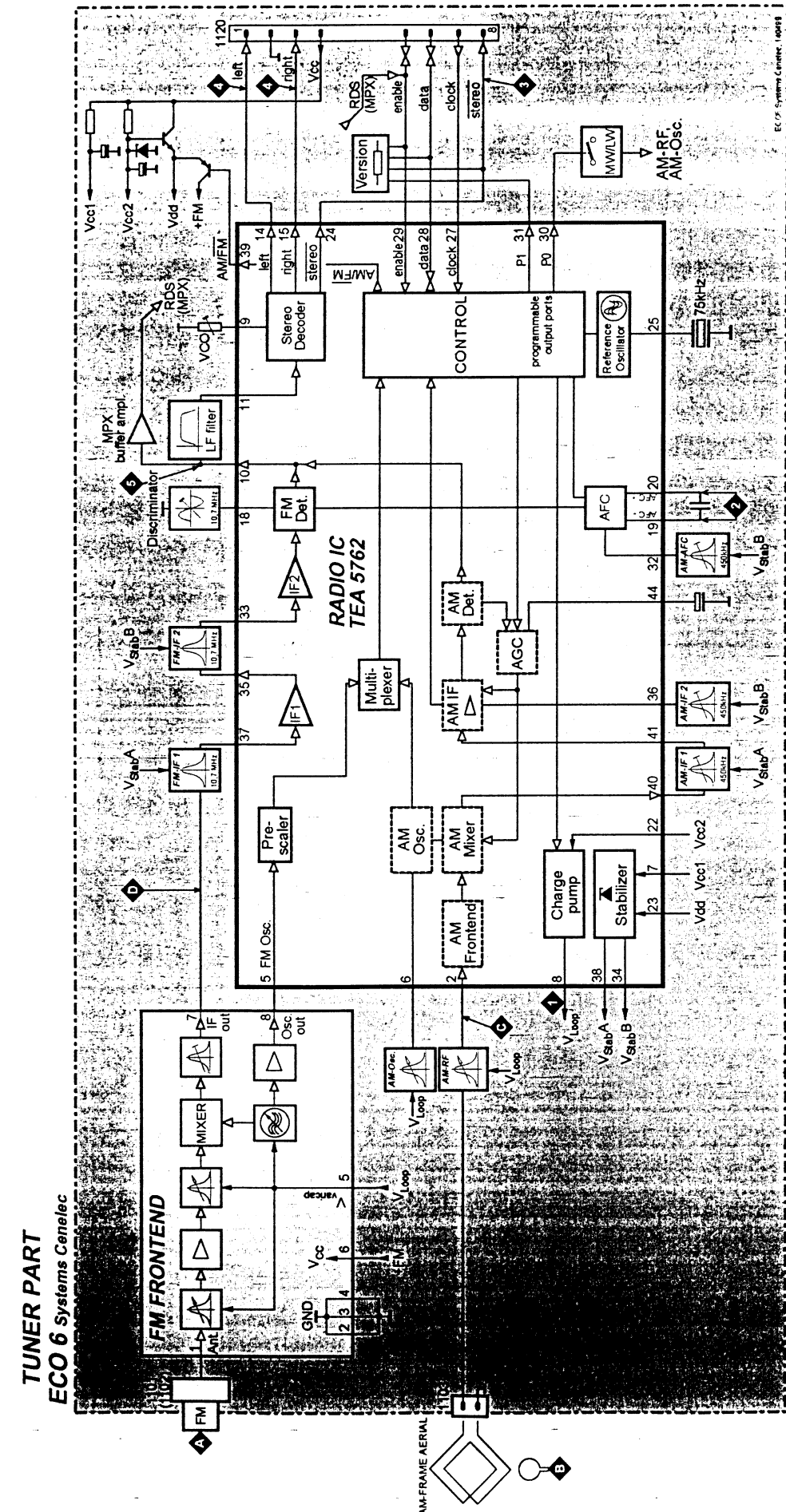
3101	4822 051 20333	33kΩ	5%	0.1W	
3102	4822 117 10837	100kΩ	1%	0.1W	
3103	4822 051 20822	8.2kΩ	5%	0.1W	
3104	4822 117 13577	330Ω	1%	0.1W	
3105	4822 117 11503	220Ω	5%	0.1W	
3132	4822 051 20479	47Ω	5%	0.1W	
3134	4822 051 20223	22kΩ	5%	0.1W	
3141	4822 117 11148	56kΩ	1%	0.1W	
3142	4822 100 12159	TRIMPOT, 100kΩ			

RESISTORS

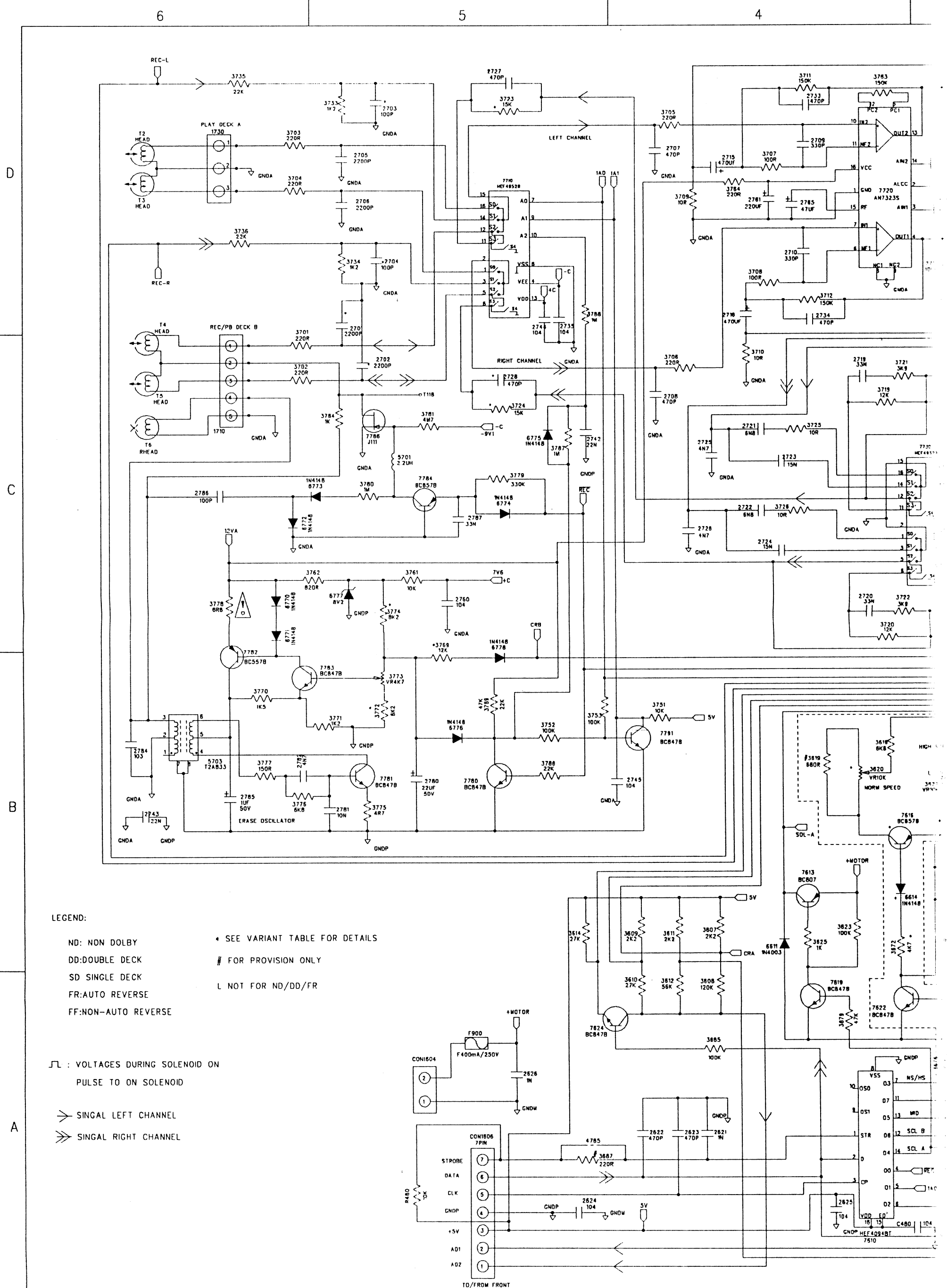
3143	4822 051 20223	22kΩ	5%	0.1W	RDS only
3144	4822 051 10102	1kΩ	2%	0.25W	RDS only
3145	4822 117 11449	2.2kΩ	1%	0.1W	
3146	4822 051 20229	22Ω	5%	0.1W	
3152	4822 051 20471	470Ω	5%	0.1W	
3153	4822 051 20471	470Ω	5%	0.1W	
3154	4822 117 13577	330Ω	1%	0.1W	
3155	4822 117 11503	220Ω	5%	0.1W	
3156	4822 117 10837	100kΩ	1%	0.1W	
3157	4822 117 10837	100kΩ	1%	0.1W	
3158	4822 051 20471	470Ω	5%	0.1W	
3159	4822 051 20471	470Ω	5%	0.1W	
3160	4822 051 20471	470Ω	5%	0.1W	
3161	4822 051 20223	22kΩ	5%	0.1W	
3167	4822 051 20121	120Ω	5%	0.1W	
3168	4822 051 20121	120Ω	5%	0.1W	
3169	4822 051 20154	150kΩ	5%	0.1W	
3170	4822 117 10837	100kΩ	1%	0.1W	
3172	4822 051 20562	5.6kΩ	5%	0.1W	
3176	4822 051 20333	33kΩ	5%	0.1W	RDS only
3181	4822 051 10102	1kΩ	2%	0.25W	
4103	4822 051 20008	CHIP JUMPER 0805			
4106	4822 051 20008	CHIP JUMPER 0805			
4107	4822 051 20008	CHIP JUMPER 0805			
4108	4822 051 20008	CHIP JUMPER 0805			
COILS					
5102	4822 157 71634	RF-COIL MW			
5109	4822 242 70665	FM-IF FILTER 10.7MHz			
5110	4822 242 70665	FM-IF FILTER 10.7MHz			
5111	2422 549 44023	AM-IF FILTER 450kHz			
5112	4822 157 70302	AM-IF FILTER 450kHz			
5114	4822 157 70302	AM-IF FILTER 450kHz			
5119	4822 157 11443	DISCRIMINATOR COIL			
5121	4822 242 10261	QUARTZ 75kHz			
5123	2422 549 44108	RF-COIL, AM-OSCILLATOR			
5130	4822 157 11843	RF COIL 1.5 TURNS			
5131	4822 157 11843	RF COIL 1.5 TURNS			
DIODES					
6103	5322 130 34337	BAV99			
6105	4822 130 83075	HN1V02H			
6106	4822 130 83757	BAS216			
6107	9340 386 90115	BZX284-C11			
6120	4822 130 83757	BAS216			
6130	4822 130 82833	1SV228			
6131	4822 130 82833	1SV228			
TRANSISTORS					
7102	4822 130 42131	BF550			
7103	5322 130 42756	BC857C			RDS only
7111	5322 130 42755	BC847C			
7112	4822 130 44503	BC547C			
INTEGRATED CIRCUITS					
7101	9351 740 80557	TEA5757HV1, RADIO IC			

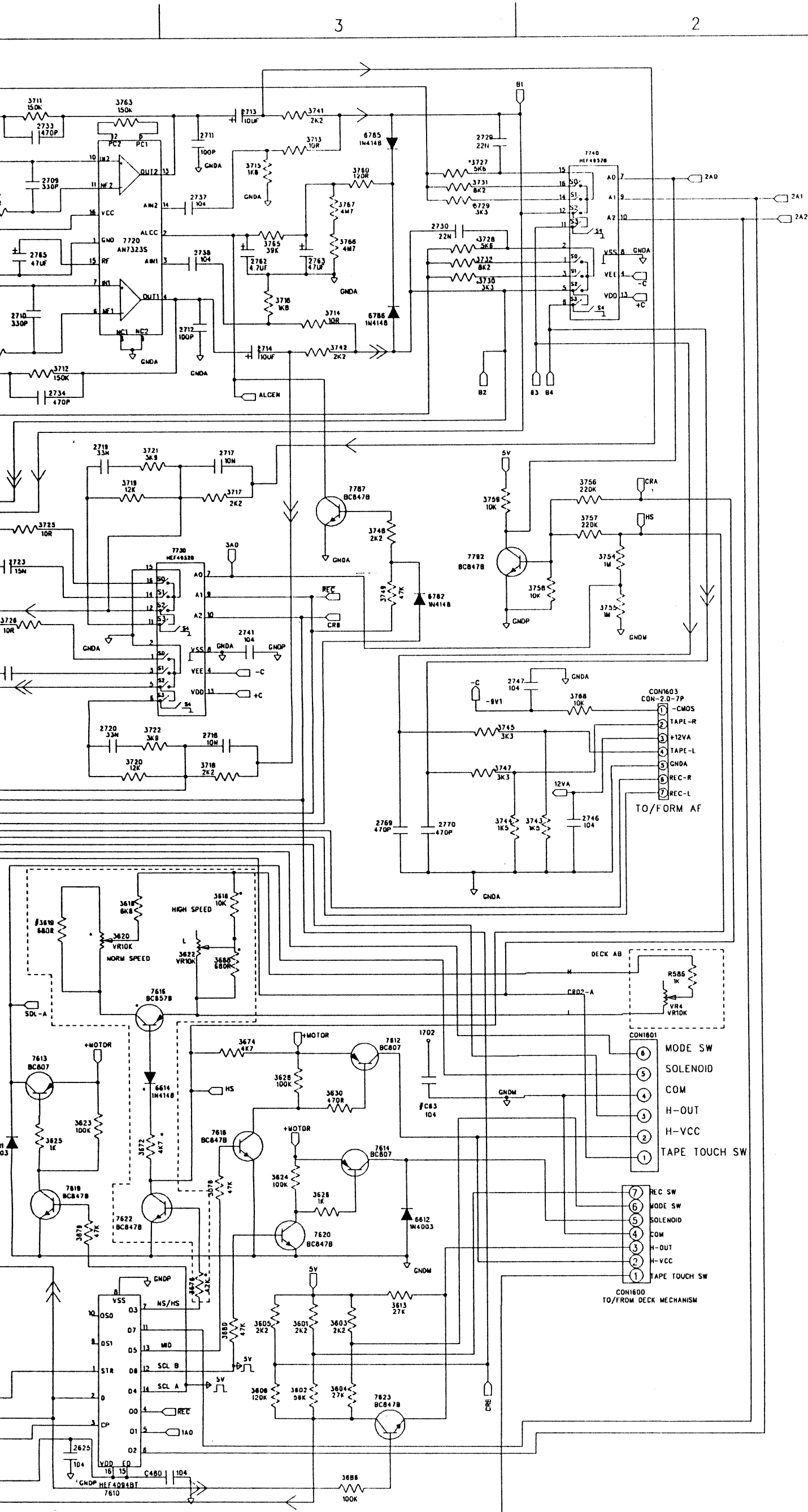
version: **SYSTEMS CENELEC**

Blockdiagram.....	7B-1
Schematic Diagram.....	7B-2
Component Layout.....	7B-3
Adjustment table.....	7B-3
Electrical Partslist.....	7B-4



CIRCUIT DIAGRAM - TAPE BOARD





U1 HEF4952B

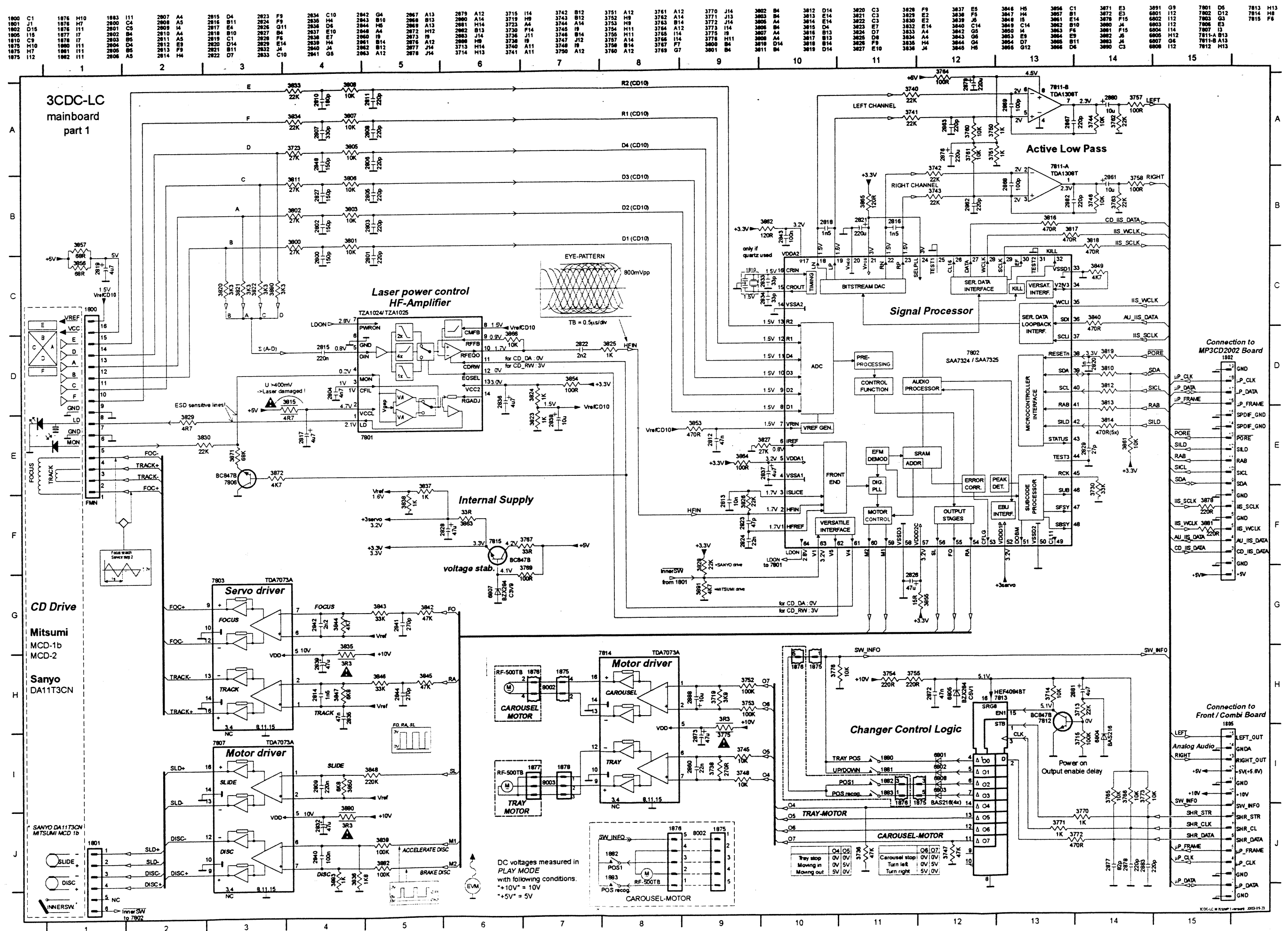
	A2	A1	A0	S0	S1	S2	S3	S4
STOP	0	0	0		1			1
PB DECK A	0	0	1	1				1
PB DECK B	0	1	0			1		1
-- --	0	1	1	1		1		1
REC IN	1	0	0		1		1	
DUBBING	1	0	1	1			1	
-- --	1	1	0			1	1	
-- --	1	1	1					1

U2 HEF4952B

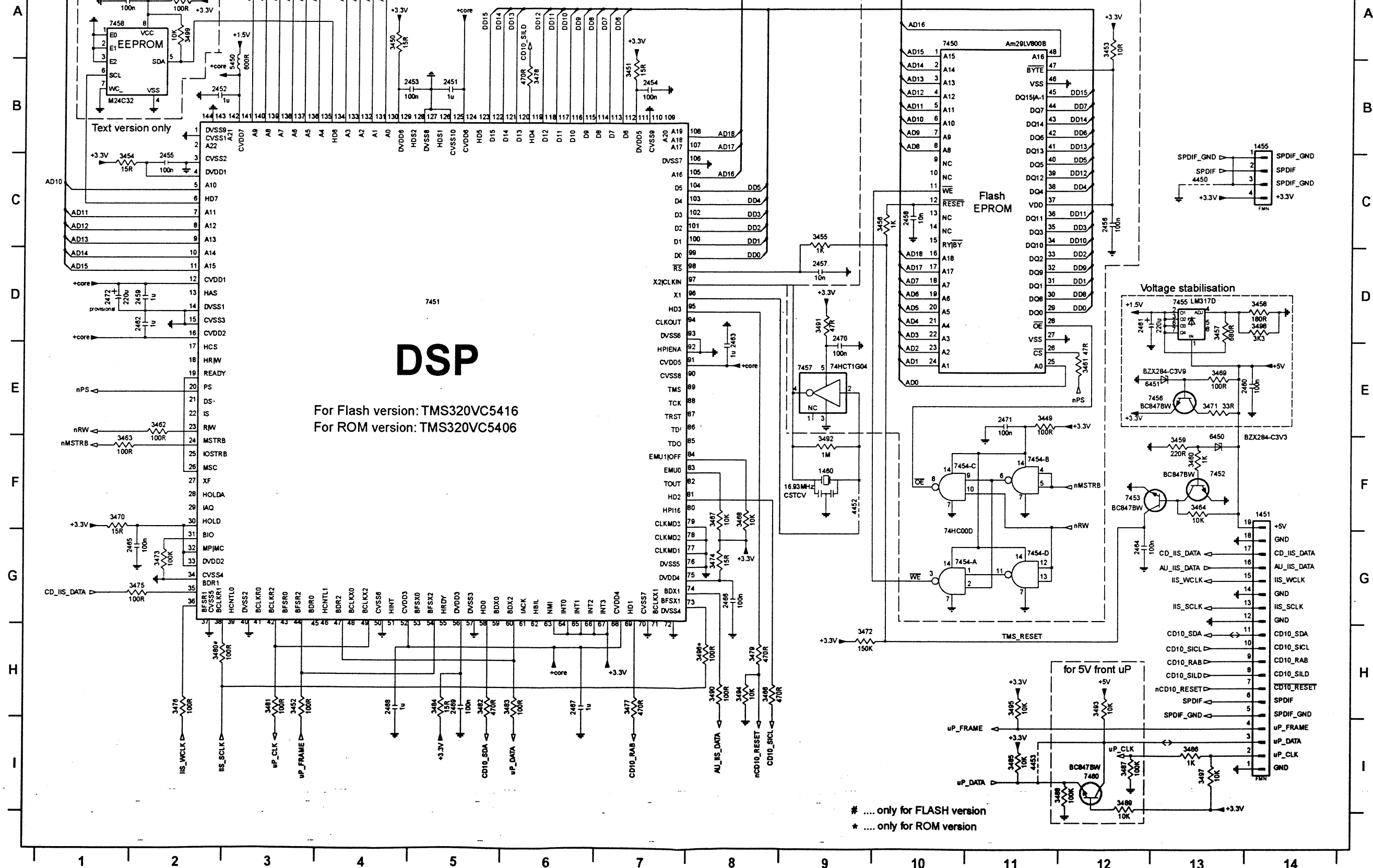
	A2	A1	A0	S0	S1	S2	S3	S4
-- --	0	0	0		1			1
STOP	0	0	1	1				1
-- --	0	1	0			1		1
REC	0	1	1	1		1		1
HS CHROME	1	0	0		1		1	
PB CHROME	1	0	1	1			1	
-- --	1	1	0			1	1	
PB FERRO	1	1	1					1

U3 HEF4952B

	A2	A1	A0	S0	S1	S2	S3	S4
NS FERRO	0	0	0		1			1
HS FERRO	0	0	1	1				1
REC MUTE	0	1	0			1		1
REC MUTE	0	1	1	1		1		1
NS CHROME	1	0	0		1		1	
HS CHROME	1	0	1	1			1	
REC MUTE	1	1	0			1	1	
-- --	1	1	1					1



MP3-CD-2002



POWER BOARD

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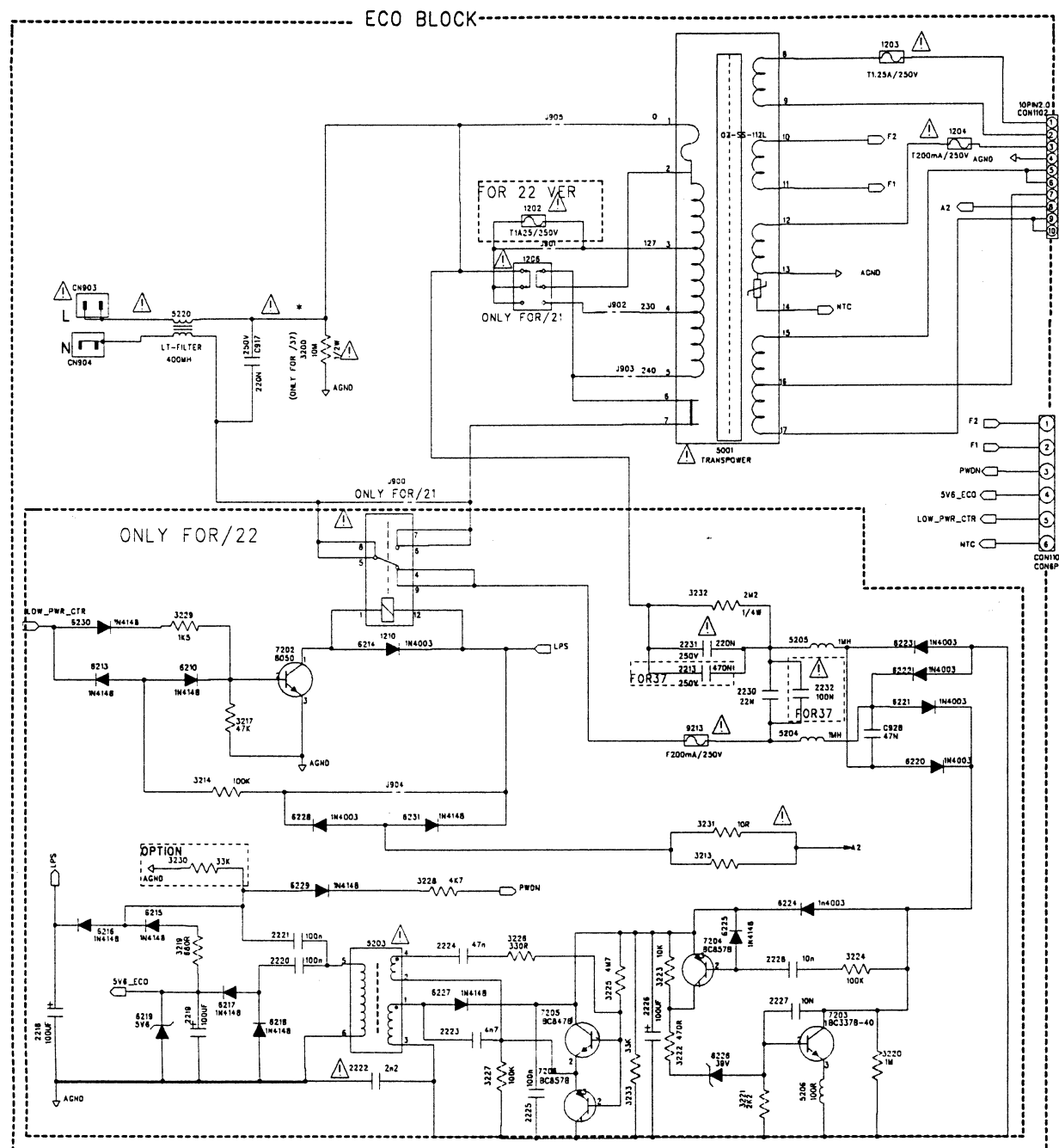
PCB Layout Top View	9-2
PCB Layout Bottom View	9-2
Circuit Diagram	9-3
Electrical Parts List	9-4

Remark: For Ver. 22, the whole Power Board Ass'y can be orderd with 12nc: 9940 000 01507

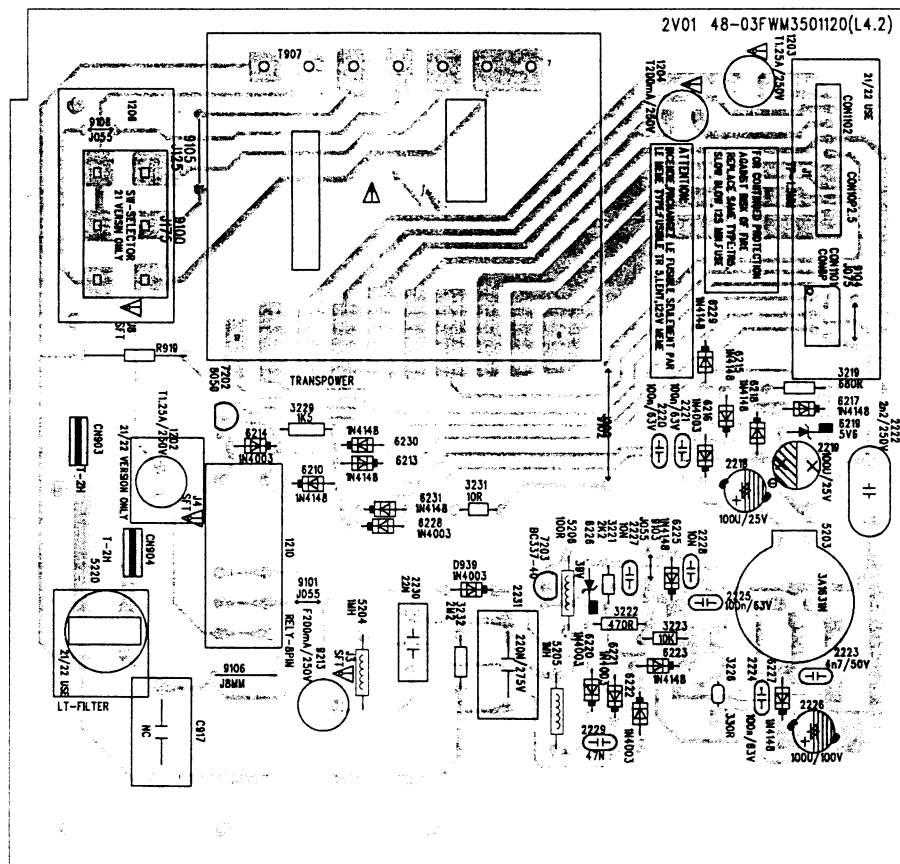
ELECTRICAL PARTS - CASS DECK BOARD

3778	△	9940 000 01249	FUSE RES. 6.8Ω 1/4W +/-5%
5703		9940 000 01251	IFT OSC COIL 100KHZ
7610		5322 209 11306	HEF4094BT
7710		9940 000 01248	IC HF4952
7720		9322 140 00668	IC SM AN7323S (MATJ)
7730		9940 000 01248	IC HF4952
7740		9940 000 01248	IC HF4952
7786		4822 130 63494	FET J111
F900	△	9940 000 01252	FUSE RADIAL F400MA/250V

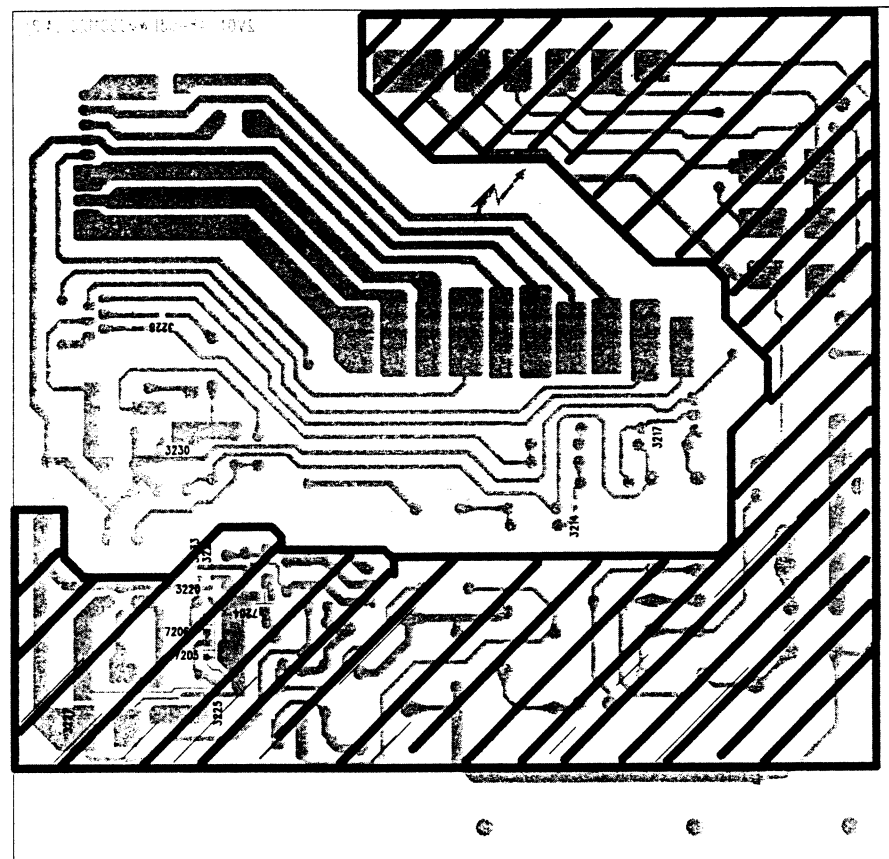
Note: Only these parts mentioned in the list are
normal service parts.

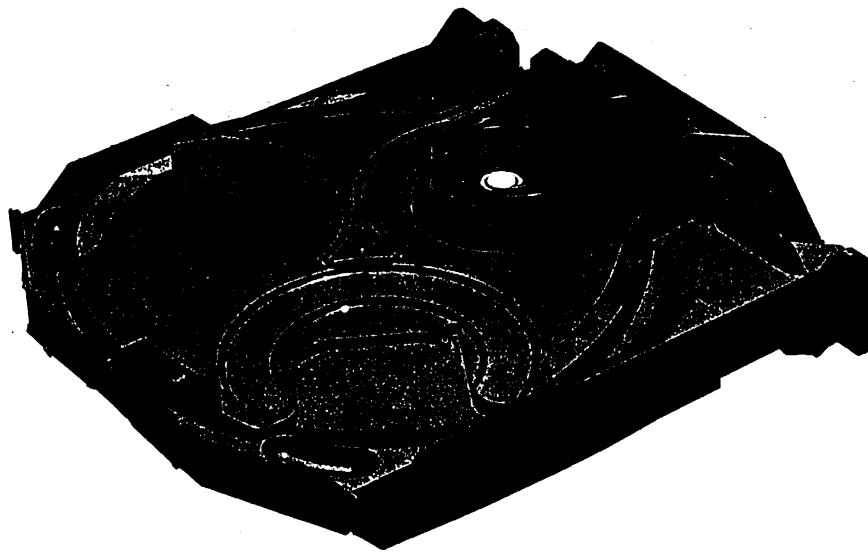


PCB LAYOUT - POWER BOARD (TOP VIEW)



PCB LAYOUT - POWER BOARD (BOTTOM VIEW)





3CDC-LC-MP3CD2002

(3 Disc Carousel Changer+MP3 Board) Layout stage .2

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Service hints

CAUTION

CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE CD DRIVE ELECTRONICS WHEN CONNECTING A NEW CD MECHANISM. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

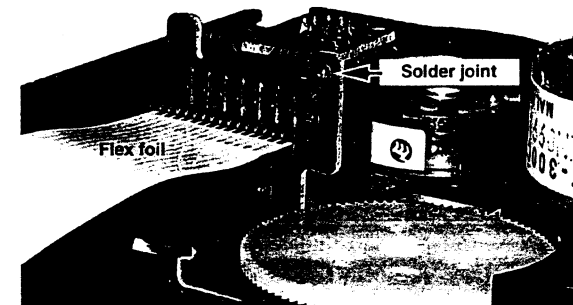
The following steps have to be done when replacing the CD mechanism:

1. Disconnect flexfoil cable from the old CD drive
2. Put a paperclip on the flexfoil to short-circuit the contacts (fig.1)
3. Remove the old CD drive
4. Remove paperclip from the flexfoil and connect it to the new drive
5. Position the new CD drive in its studs
6. Remove solder joint from the Laserunit



Attention: The laser diode of this CD drive is protected against ESD by a solder joint which shortcircuits the laserdiode to ground.

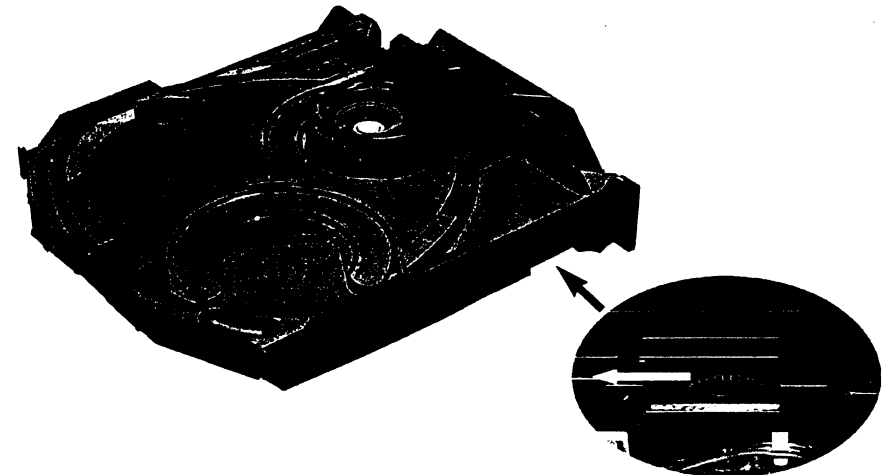
For proper functionality of the CD drive this solder joint must be removed **after** connection the drive to the set.



Emergency open

In case of a Supply fault, the tray can be opened manually.

1. Remove the top cover of the set to get access to the Changer Module.
2. Turn gearwheel clockwise (as shown in picture below).



ELECTRICAL PARTS - POWER BOARD

1206	9940 000 01323	SWITCH /21
1202	△ 9940 000 01228	FUSE RADIAL F200MA/250V
1203	△ 9940 000 01231	FUSE RADIAL T1.25A 250V
1204	△ 9940 000 01229	FUSE RADIAL T200MA/250V
1210	9940 000 01232	RELAY ME-12H 30VDC
2222	△ 9940 000 01224	SAFETY CAP 250V 0.0022μF +/-20%
2231	△ 9940 000 01225	SAFETY CAP 275V 0.22μF +/-20%
5203	△ 9940 000 01227	TRANSFORMER STANDBY
5220	△ 9940 000 01226	AC LINE FILTER IND. 400μH 3A
9213	△ 9940 000 01228	FUSE RADIAL F200MA/250V
C917	△ 9940 000 01225	SAFETY CAP 275V 0.22μF +/-20%

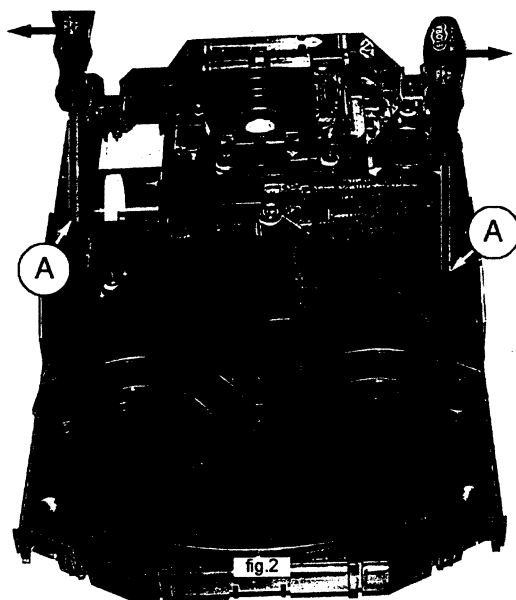
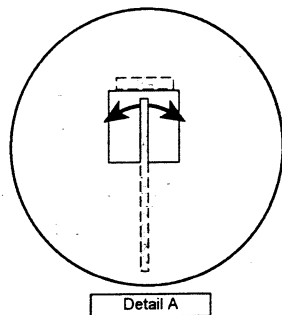
Note: Only these parts mentioned in the list are
normal service parts.

Service hints

10-3

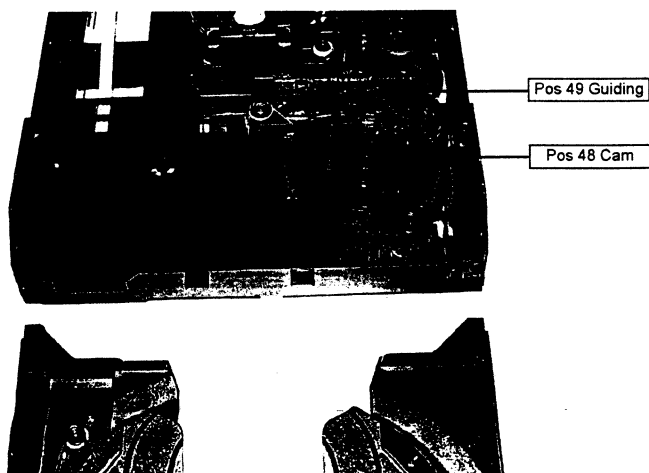
Dismantling of Tray

1. Open the tray.
2. Release 2x catch as shown in fig. 2 and Detail A
3. Pull tray out.



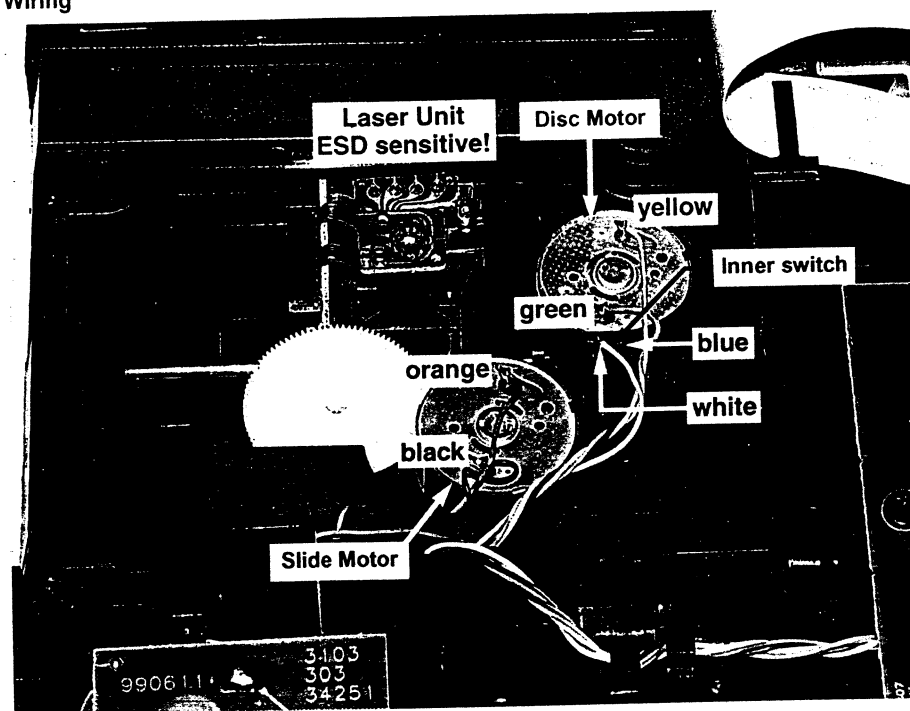
Assembling of Tray

1. Turn Cam (pos. 48) clockwise to end position.
2. If necessary - move Guiding (pos. 49) to the right end position.
3. Insert the Tray.

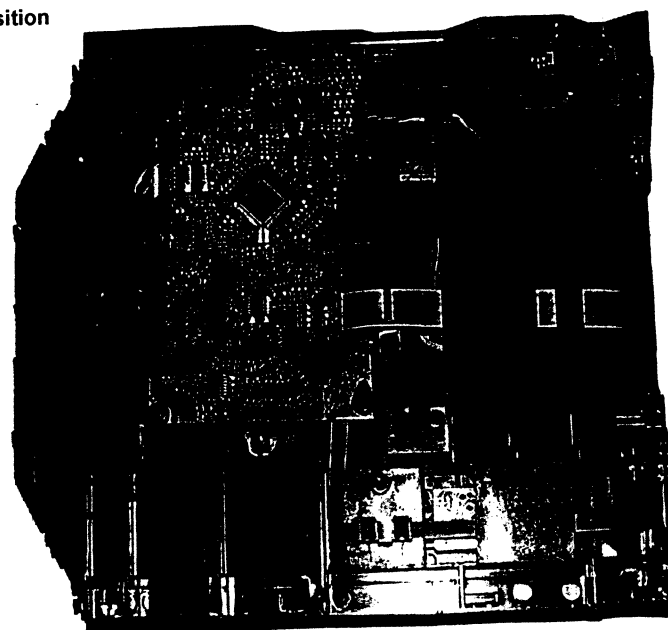


Wiring

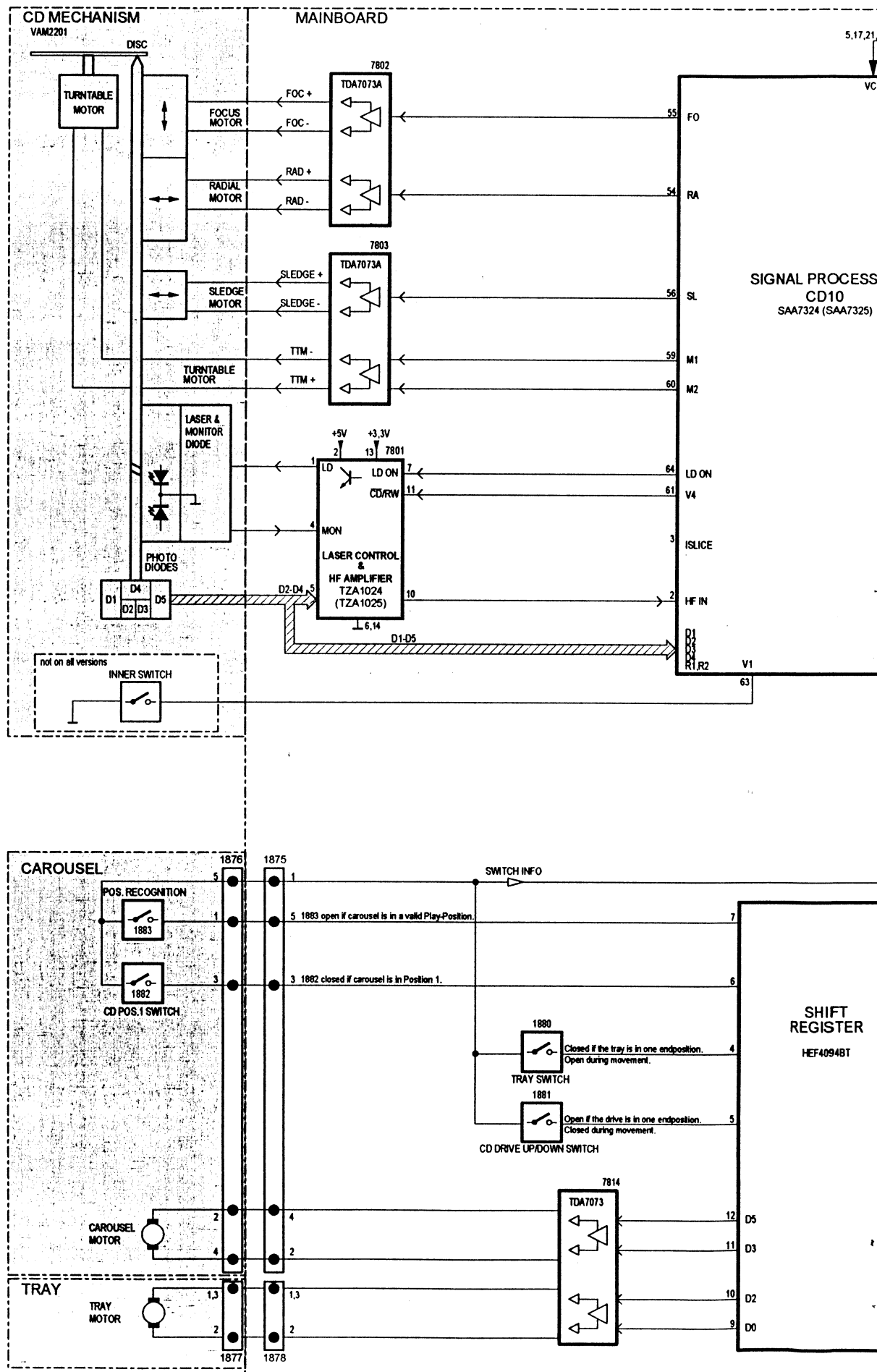
10-4

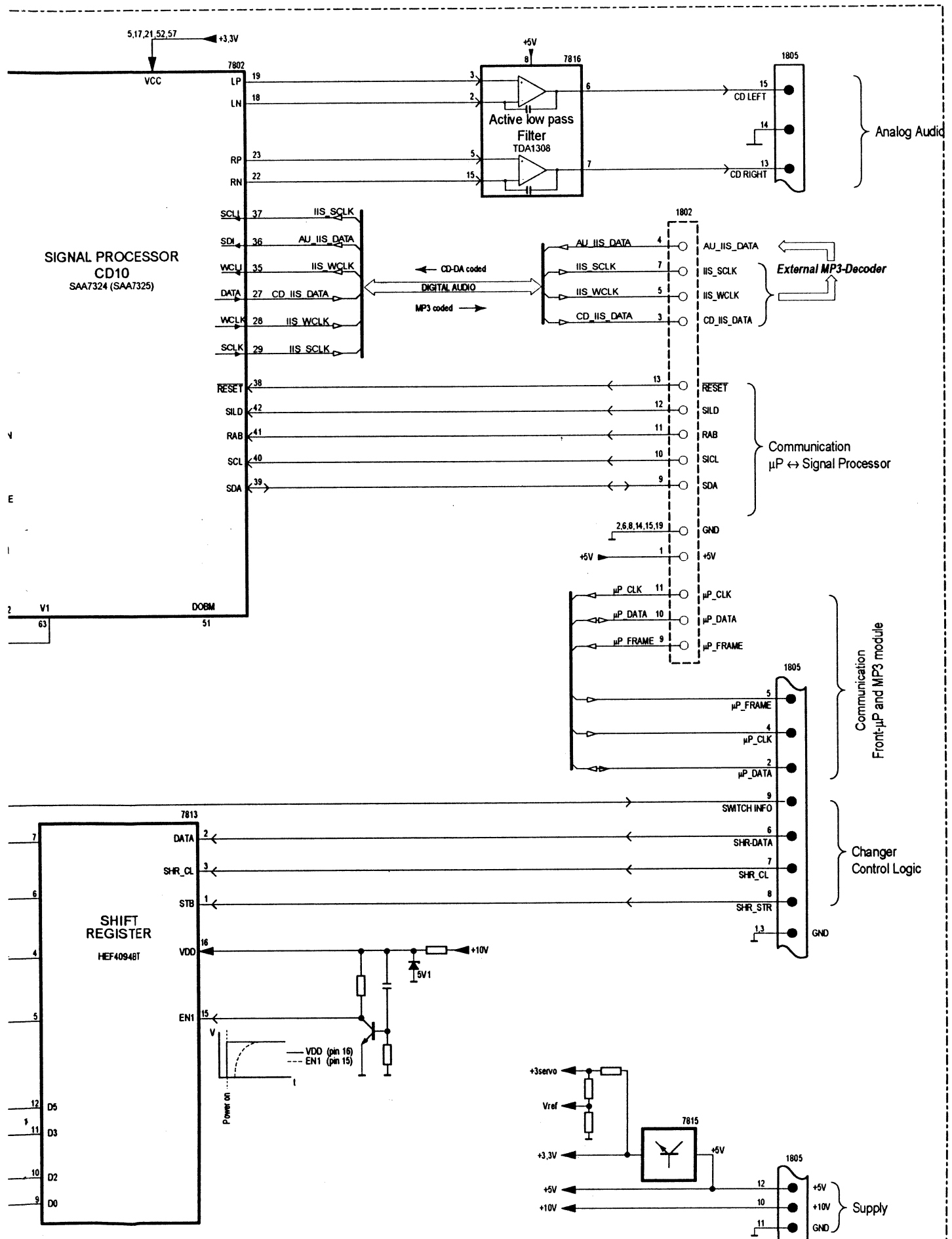


Service Position



BLOCK DIAGRAM 3CDC-LC MP3 Version



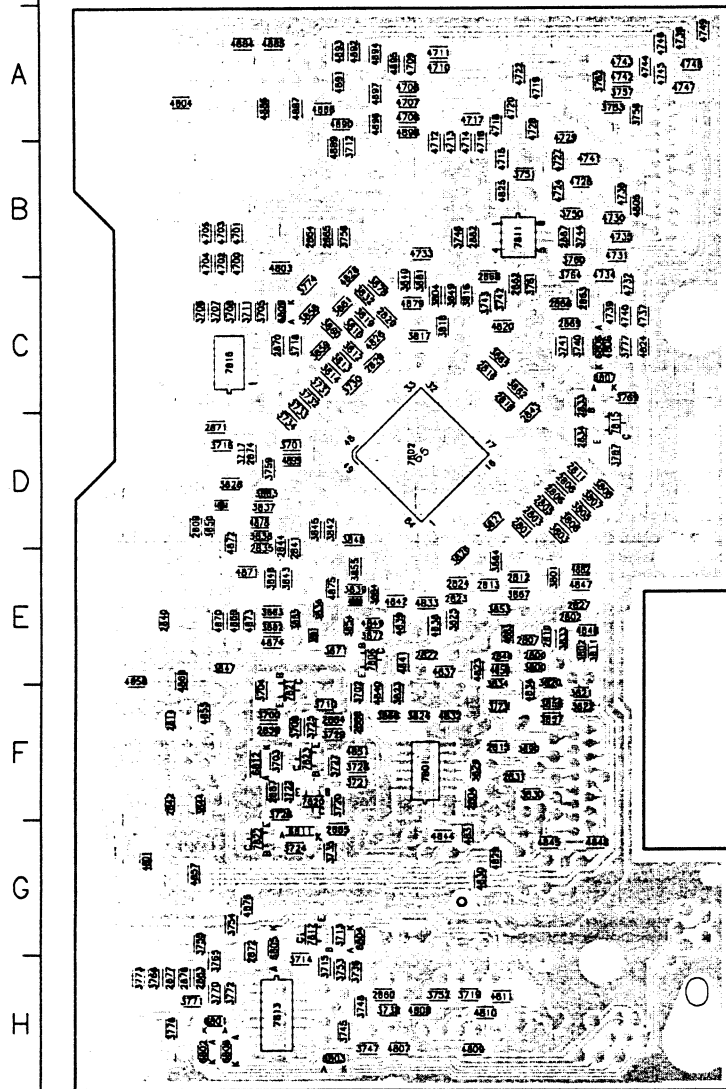


Mapping

Copperside Componentside

2800 E4	3730 C3	3848 D3	4823 E3	1451 B5
2801 D4	3731 C2	3849 C3	4824 C5	1455 A4
2802 E4	3732 C2	3850 D1	4825 B4	2450 C1
2803 D4	3733 C2	3853 E4	4826 C3	2451 B1
2804 F3	3734 D2	3854 E3	4828 C3	2452 C2
2805 D4	3735 G2	3855 E3	4829 G4	2453 B1
2806 D4	3736 H3	3856 F4	4830 G3	2454 B1
2807 E4	3738 H3	3857 F4	4831 G3	2455 D2
2808 D4	3740 C4	3858 C2	4832 F3	2457 A2
2809 D1	3741 C4	3859 C2	4833 E3	2461 D4
2810 E4	3742 C4	3860 C2	4834 F4	2463 A3
2811 D4	3743 C4	3861 C2	4837 E3	2464 D4
2812 E4	3744 B4	3862 C4	4838 E3	2465 D4
2813 E4	3745 H2	3863 D2	4839 E3	2466 A3
2814 F1	3746 B3	3864 E4	4840 F3	2467 B4
2815 F4	3747 H3	3865 C4	4841 E3	2468 B4
2816 C4	3748 H3	3866 F3	4842 E3	2469 B4
2818 C4	3750 B4	3867 E4	4844 G3	2472 D3
2820 C3	3751 B4	3871 E2	4845 G4	3450 C1
2822 E3	3752 H3	3872 E3	4846 E4	3451 B1
2823 E3	3753 H2	3878 C3	4847 E4	3454 D2
2824 E3	3754 G2	3881 C3	4848 G4	3465 C1
2827 E4	3755 G1	3882 E2	4849 E3	3467 A3
2829 C3	3756 B2	3883 E2	4851 F3	3468 A3
2831 F4	3757 A5	3884 E3	4855 F1	3469 C4
2833 C4	3758 A5	3885 E2	4856 E4	3470 D3
2834 D4	3759 D2	3890 F4	4857 G1	3471 C4
2835 D2	3760 B4	3891 E2	4858 E1	3473 C4
2840 E1	3761 C4	4700 B2	4868 E1	3474 A3
2841 D2	3762 A4	4701 B2	4869 E2	3475 D4
2842 F1	3763 A4	4702 B2	4870 E2	3476 C4
2843 D4	3764 C4	4703 B2	4871 E2	3477 B4
2844 D2	3765 H2	4704 B1	4872 D2	3479 A2
2848 E4	3766 H1	4705 B1	4873 E2	3480 C4
2859 F2	3767 D4	4706 A3	4874 E2	3481 C4
2860 H3	3769 C5	4707 A3	4875 E2	3484 B4
2862 C4	3770 H2	4708 A3	4876 G2	3490 A4
2863 C4	3771 H1	4709 A3	4878 D2	3494 A2
2864 B2	3772 H2	4710 A3	4879 C3	3496 A4
2865 B2	3773 H1	4711 A3	4880 E3	3499 C1
2866 C4	3774 C2	4712 B3	4881 D2	4450 A4
2867 B4	3776 H1	4713 B3	4882 E4	6451 D4
2868 C4	3777 C5	4714 B3	4883 E4	7451 B3
2869 C4	3800 E4	4715 B4	4884 A2	7458 D4
2870 C2	3801 E4	4716 B3	4885 A2	7458 D1
2871 D2	3802 E4	4717 A3	4886 A2	
2872 G2	3803 D4	4718 A4	4887 A2	
2874 D2	3804 C3	4719 A4	4888 A2	
2877 H1	3805 D4	4720 A4	4889 B2	
2878 H1	3808 D4	4722 A4	4890 A2	
2882 B3	3807 D4	4724 B4	4891 A2	
2883 H1	3808 D4	4726 B4	4892 A3	
2884 F2	3810 C3	4727 B4	4893 A2	
2885 G2	3811 E4	4728 A4	4894 A3	
2886 F3	3812 C3	4729 A4	4895 A3	
2887 F2	3813 C2	4730 B4	4896 A3	
3700 F2	3814 C2	4731 B4	4897 A3	
3701 D2	3816 C3	4732 C5	4898 A3	
3702 F3	3817 C3	4733 B3	4899 D2	
3703 F2	3818 C3	4734 C4	6801 H2	
3704 F2	3819 C3	4735 B5	6802 H1	
3705 C2	3820 E4	4736 A5	6803 H2	
3706 C1	3821 F4	4737 C5	6804 G3	
3707 C2	3822 F4	4738 B5	6805 G2	
3708 C2	3823 F3	4739 C4	6806 C4	
3709 F2	3824 F3	4740 C5	6807 C4	
3710 F2	3825 E3	4741 B4	6808 H2	
3711 C2	3826 E3	4742 A5	6809 C2	
3712 B3	3827 D4	4743 A5	6811 G2	
3713 G2	3828 D2	4744 A5	6812 F2	
3714 H2	3829 F3	4745 A5	7801 F3	
3715 H2	3830 F4	4746 A5	7802 D3	
3716 D2	3832 C3	4747 A5	7806 E3	
3717 D2	3833 E4	4748 A5	7811 B4	
3718 C2	3834 E4	4749 A5	7812 G2	
3719 H3	3836 E2	4801 G1	7813 H2	
3720 F2	3837 D2	4803 B2	7815 D4	
3721 F3	3838 D2	4804 A1	7816 C2	
3722 F2	3839 E3	4805 B5	7820 F2	
3723 F4	3840 C3	4806 C4	7821 F2	
3724 G2	3842 D2	4807 H3	7822 G2	
3725 F2	3843 E2	4808 H3	7823 F2	
3726 F2	3844 F1	4809 H3		
3727 F2	3845 D2	4810 H4		
3728 F3	3846 E2	4811 H4		
3729 F2	3847 E2	4820 C4		

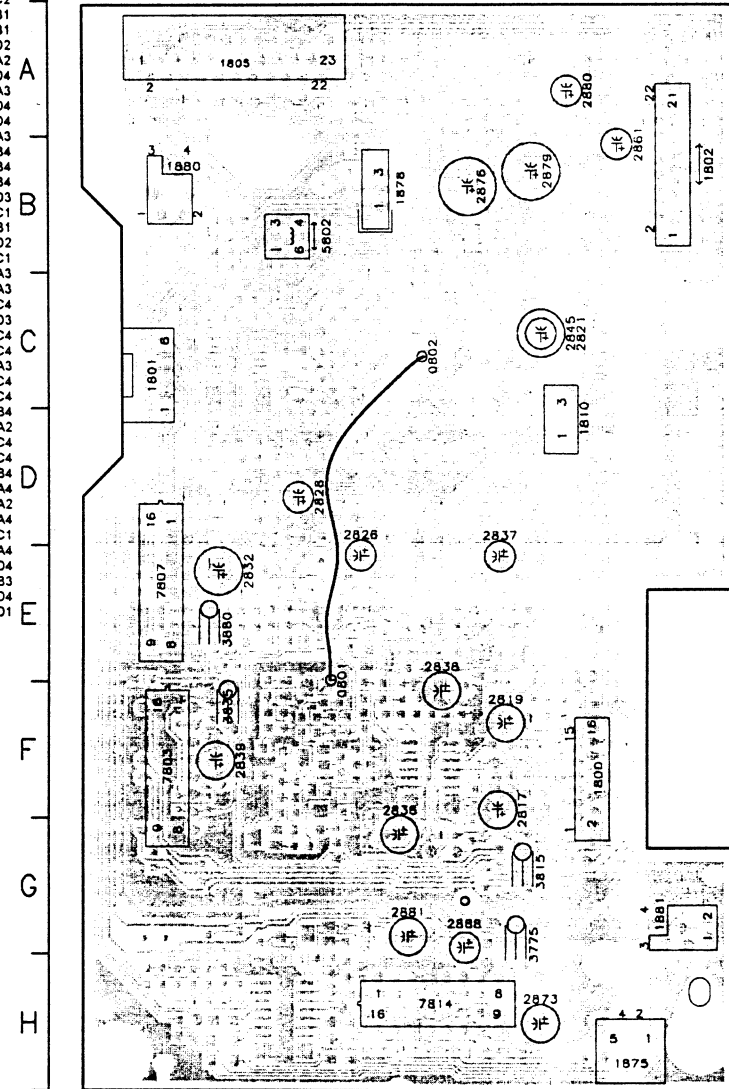
3CDC-LC-MP3CD2002 Copperside view



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partlist.

3CDC-LC-MP3CD2002 Layout date: 2 2007-06-27

3CDC-LC-MP3CD2002 Components seen from Copperside



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partlist.

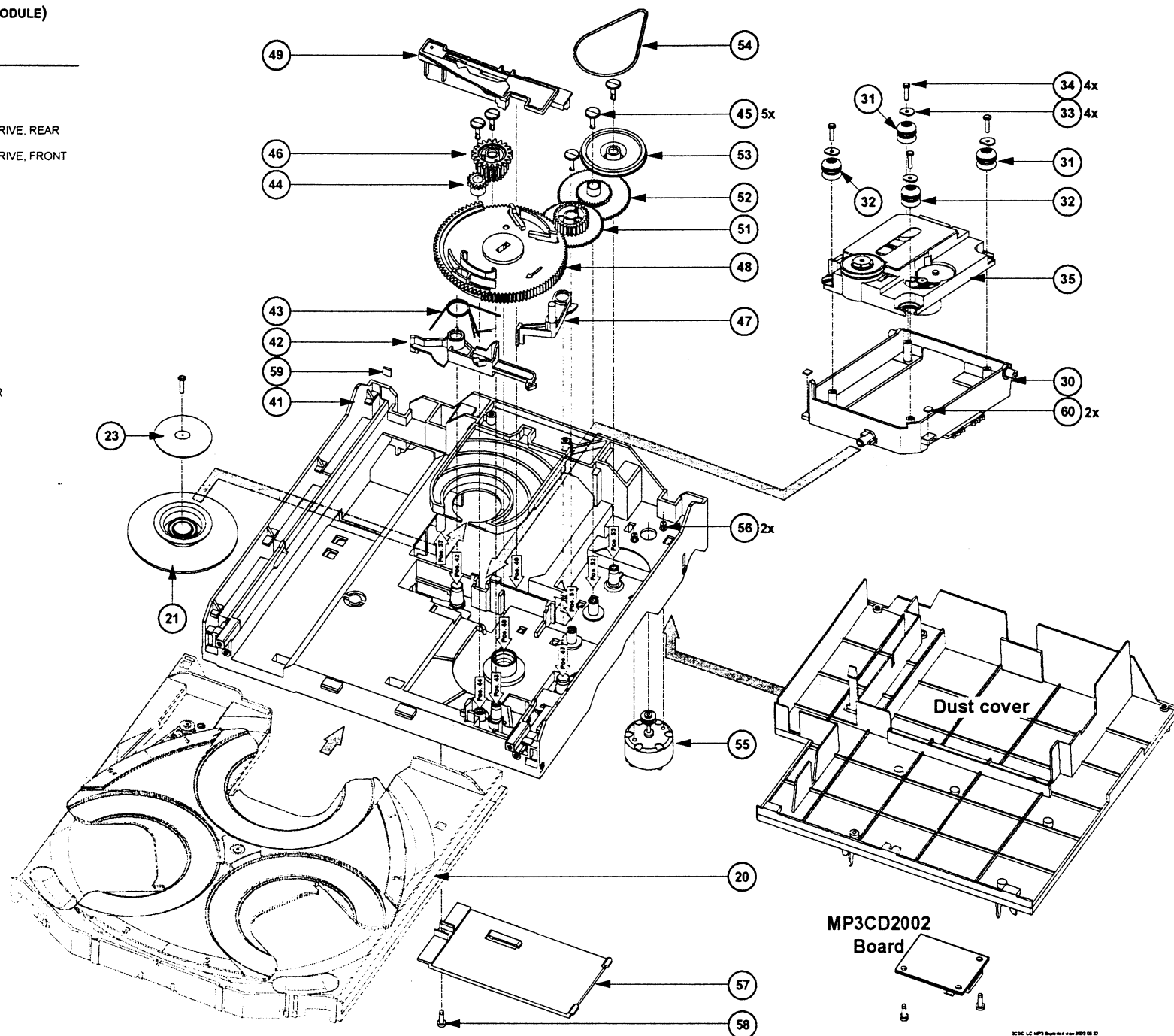
3CDC-LC-MP3CD2002 Layout date: 2 2007-06-27

EXPLODED VIEW (3CDC-LC MODULE)

MECHANICAL PARTS Loader

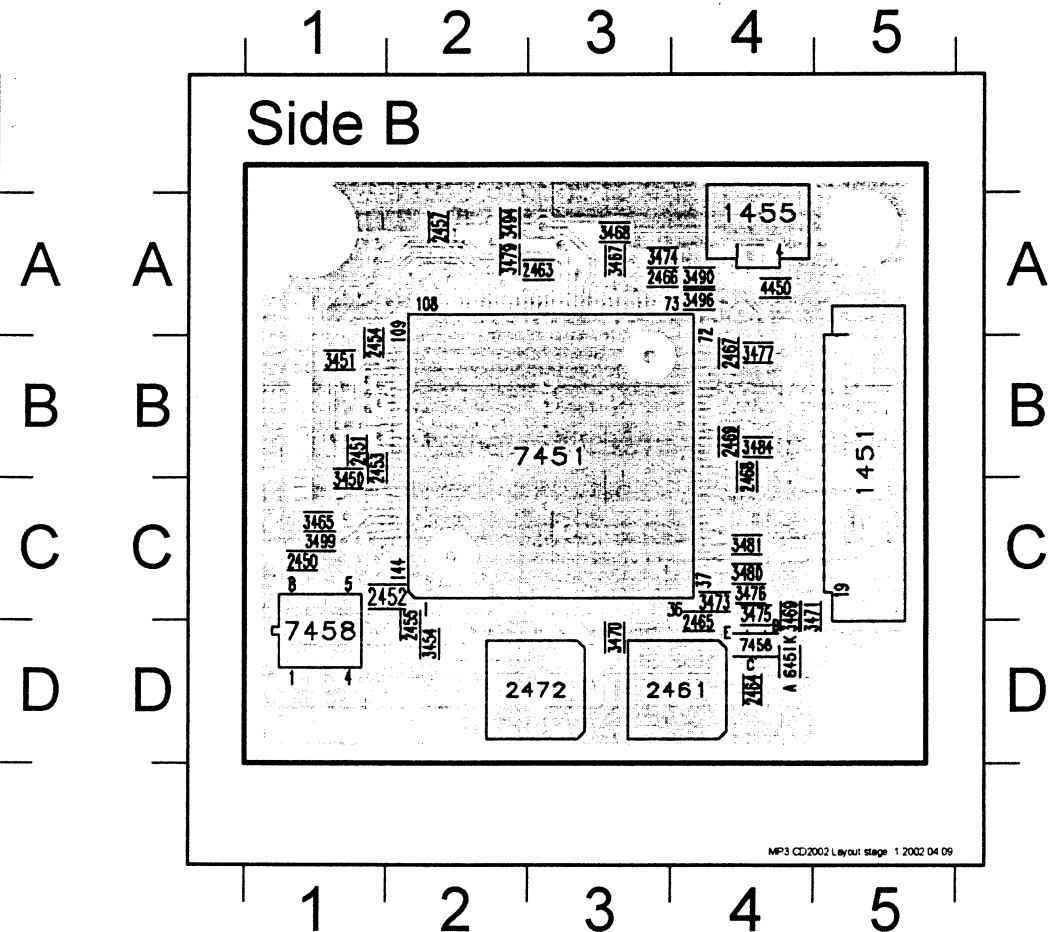
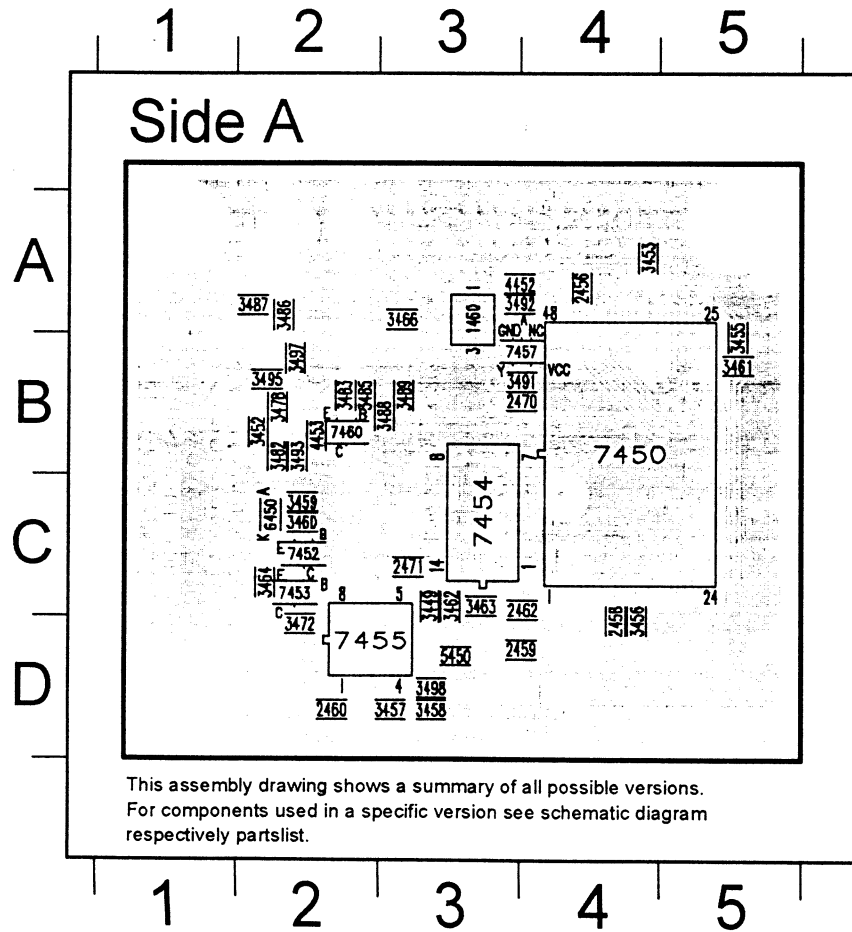
20	3103 304 66500	DRAWER BLACK
21	3140 114 29070	PRESSURE RING-DA11
23	3140 111 21270	METAL RING-DA11
30	3103 304 66560	SUPPORT
31	4822 529 10386	RUBBER DAMPER CD DRIVE, REAR
32	4822 529 10387	RUBBER DAMPER CD DRIVE, FRONT
33	3103 304 06970	WASHER
35	3103 309 05350	CD DRIVE MCD18
41	3103 304 66480	FRAME
42	3103 304 66540	BRACKET-GUIDING
43	3103 301 06460	SPRING-GUIDING
44	3103 304 06890	GEAR-3
45	3103 304 06980	NAIL FIXATION
46	3103 304 06880	GEAR-2
47	3103 304 66530	BRACKET-LOAD
48	3103 304 06910	CAM
49	3103 304 66510	GUIDING
51	3103 304 06900	GEAR-4
52	3103 304 06870	GEAR-1
53	3103 304 06960	PULLEY-FRAME
54	3103 304 66910	DRIVING-BELT-DRAWER
55	4822 361 10753	TRAY MOTOR
56	4822 502 12548	SCREW M2,6X3,5
57	3103 304 69880	COVER-DA11
59	4822 466 12146	RUBBER

- X spare part
Y non spare part



1460 A3	3449 C3	3460 C2	3482 B2	3492 A3	6450 C2
2456 A4	3452 B2	3461 B5	3483 B2	3493 B2	7450 B4
2458 D4	3453 A4	3462 C3	3485 B2	3495 B2	7452 C2
2459 D4	3455 B5	3463 C3	3486 A2	3497 B2	7453 C2
2460 D2	3456 D4	3464 C2	3487 A2	3498 D3	7454 C3
2462 C4	3457 D3	3466 A3	3488 B3	4452 A3	7455 D2
2470 B4	3458 D3	3472 D2	3489 B3	4453 B2	7457 B4
2471 C3	3459 C2	3478 B2	3491 B4	5450 D3	7460 B2

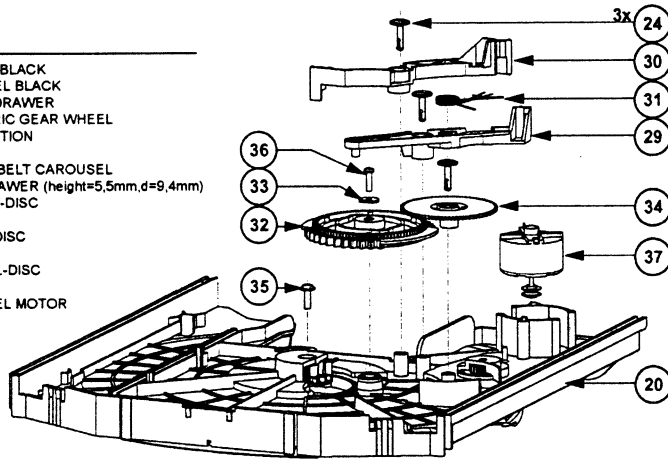
1451 B5	2457 A2	2469 B4	3469 C4	3479 A2	4450 A4
1455 A4	2461 D4	2472 D3	3470 D3	3480 C4	6451 D4
2450 C1	2463 A3	3450 C1	3471 C4	3481 C4	7451 B3
2451 B1	2464 D4	3451 B1	3473 C4	3484 B4	7456 D4
2452 C2	2465 D4	3454 D2	3474 A3	3490 A4	7458 D1
2453 B1	2466 A3	3465 C1	3475 C4	3494 A2	
2454 B1	2467 B4	3467 A3	3476 C4	3496 A4	
2455 D2	2468 B4	3468 A3	3477 B4	3499 C1	



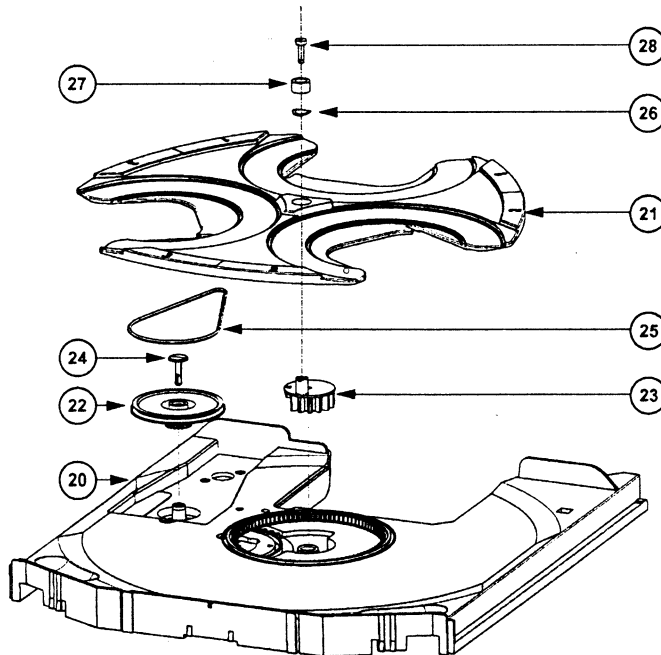
Drawer bottom view

MECHANICAL PARTS Drawer

20	3103 304 66500	DRAWER BLACK
21	3103 304 66490	CAROUSEL BLACK
22	3103 304 06880	PULLEY-DRAWER
23	3103 304 06850	ECCENTRIC GEAR WHEEL
24	3103 304 06980	NAIL FIXATION
25	3103 304 66850	DRIVING BELT CAROUSEL
27	4822 532 12365	BUSH DRAWER (height=5,5mm,d=9,4mm)
29	3103 304 66550	BRACKET-DISC
30	3103 304 66520	TUMBLER
31	3103 301 06470	SPRING-DISC
32	3103 304 06920	CONTROL-DISC
34	3103 304 06870	GEAR-1
37	4822 361 10753	CAROUSEL MOTOR



Drawer top view



- X spare part
Y non spare part

3000-LC Drawer only 1000 00 12

ELECTRICAL PARTSLIST 3CDC-LC MODULE

MISCELLANEOUS

37	4822 361 10753	CAROUSEL MOTOR
55	4822 361 10753	TRAY MOTOR
1800	2422 025 17389	FFC-CONNECTOR 16Pin
1805	4822 265 10879	FFC-CONNECTOR 15Pin
1875	4822 267 10958	FFC-CONNECTOR 5Pin
1876	2422 025 06332	FFC-CONNECTOR 5Pin
1880	4822 276 13503	SWITCH
1881	4822 276 13503	SWITCH
1882	4822 276 13503	SWITCH
1883	4822 276 13503	SWITCH
8001	3103 308 93070	FLEX FOIL CABLE 19P, 170mm BD
8002	3103 308 91990	FLEXFOIL CABLE, 5P, 200mm AD
8005	3103 308 92930	FLEX FOIL CABLE 16P 170mm 1:n

CAPACITORS

2800	4822 122 33753	150pF	5%	50V
2801	4822 126 13883	220pF	5%	50V
2802	4822 122 33753	150pF	5%	50V
2803	4822 126 13883	220pF	5%	50V
2804	4822 126 13193	4,7nF	10%	63V
2805	4822 126 13883	220pF	5%	50V
2806	4822 126 13883	220pF	5%	50V
2807	4822 126 14241	330pF	5%	50V
2808	4822 126 13883	220pF	5%	50V
2809	4822 126 13879	220nF	20%	16V
2810	4822 126 14508	180pF	5%	50V
2811	4822 126 13883	220pF	5%	50V
2812	3198 024 44730	47nF	5%	50V
2813	4822 122 33177	10nF	20%	50V
2814	4822 126 14247	1,5nF	10%	50V
2815	4822 126 14076	220nF	20%	25V
2816	4822 126 13344	1,5nF	5%	63V
2817	4822 124 40769	4,7μF	20%	100V
2818	4822 126 13344	1,5nF	5%	63V
2819	4822 124 40769	4,7μF	20%	100V
2820	5322 126 11578	1nF	10%	63V
2821	4822 124 42383	220μF	20%	4V
2822	4822 126 14238	2,2nF	10%	50V
2823	4822 126 11785	47pF	5%	50V
2824	5322 122 32654	22nF	10%	63V
2826	4822 124 12362	47μF	20%	4V
2827	4822 122 33753	150pF	5%	50V
2828	4822 124 12362	47μF	20%	4V
2829	4822 126 11669	27pF	10%	50V
2832	4822 124 40433	47μF	20%	25V
2833	2222 867 15339	33pF	5%	50V
2835	3198 024 44730	47nF	5%	50V
2836	4822 124 40769	4,7μF	20%	100V
2837	4822 124 22726	4,7μF	20%	35V
2838	4822 124 40248	10μF	20%	63V
2839	4822 124 40433	47μF	20%	25V
2840	4822 126 14585	100nF	10%	50V
2841	4822 122 33216	270pF	5%	50V
2842	4822 126 14238	2,2nF	10%	50V
2843	4822 126 14585	100nF	10%	50V
2844	4822 122 33216	270pF	5%	50V
2848	4822 122 33753	150pF	5%	50V
2860	4822 126 14494	22nF	10%	25V
2861	4822 124 11947	10μF	20%	16V
2862	4822 126 13883	220pF	5%	50V
2863	4822 126 13883	220pF	5%	50V
2865	5322 122 32654	22nF	10%	63V
2866	4822 126 13751	47nF	10%	50V

CAPACITORS

2867	4822 126 13883	220pF	5%	50V
2868	2020 552 94427	100pF	5%	50V
2869	2020 552 94427	100pF	5%	50V
2872	3198 024 44730	47nF	5%	50V
2873	4822 124 80231	47μF	20%	16V
2876	4822 124 12245	220μF	20%	16V
2877	4822 126 14226	82pF	5%	50V
2878	4822 126 13883	220pF	5%	50V
2879	4822 124 12245	220μF	20%	16V
2880	4822 124 11947	10μF	20%	16V
2881	4822 124 40769	4,7μF	20%	100V
2882	4822 126 13883	220pF	5%	50V
2888	4822 124 11947	10μF	20%	16V

RESISTORS

3713	4822 051 30223	22kΩ	5%	0,06W
3714	4822 051 30103	10kΩ	5%	0,06W
3715	4822 117 13632	100kΩ	1%	0,06W
3719	4822 051 30392	3,9kΩ	5%	0,06W
3723	4822 051 20273	27kΩ	5%	0,1W
3730	4822 051 20333	33kΩ	5%	0,1W
3736	4822 117 12825	47kΩ	1%	0,06W
3738	4822 051 30271	27kΩ	5%	0,06W
3740	4822 051 20223	22kΩ	5%	0,1W
3741	4822 051 20223	22kΩ	5%	0,1W
3742	4822 051 20223	22kΩ	5%	0,1W
3743	4822 051 20223	22kΩ	5%	0,1W
3744	4822 051 30103	10kΩ	5%	0,06W
3745	4822 117 10833	10kΩ	1%	0,1W
3746	4822 051 30103	10kΩ	5%	0,06W
3747	4822 117 12825	47kΩ	1%	0,06W
3748	4822 051 30103	10kΩ	5%	0,06W
3750	4822 051 30102	1kΩ	5%	0,06W
3751	4822 051 30102	1kΩ	5%	0,06W
3752	4822 117 13632	100kΩ	1%	0,06W
3753	4822 117 13632	100kΩ	1%	0,06W
3754	4822 051 30221	220Ω	5%	0,06W
3755	4822 117 11503	220Ω	5%	0,1W
3757	4822 117 11373	100Ω	1%	0,1W
3758	4822 051 30101	100Ω	5%	0,06W
3760	4822 117 10833	10kΩ	1%	0,1W
3761	4822 051 30103	10kΩ	5%	0,06W
3762	4822 051 30223	22kΩ	5%	0,06W
3763	4822 051 30223	22kΩ	5%	0,06W
3764	4822 117 11373	100Ω	1%	0,1W
3785	4822 051 30103	10kΩ	5%	0,06W
3786	4822 117 10833	10kΩ	1%	0,1W
3767	4822 051 30339	33Ω	5%	0,06W
3789	4822 051 30101	100Ω	5%	0,06W
3770	4822 051 30102	1kΩ	5%	0,06W
3771	4822 051 30102	1kΩ	5%	0,06W
3772	4822 051 30471	470Ω	5%	0,06W
3773	4822 117 10833	10kΩ	1%	0,1W
3774	4822 117 11373	100Ω	1%	0,1W
3775	4822 052 10338	3,3Ω	5%	NFR25
3776	4822 051 30103	10kΩ	5%	0,06W
3800	4822 051 30273	27kΩ	5%	0,06W
3801	4822 117 10833	10kΩ	1%	0,1W
3802	4822 051 30273	27kΩ	5%	0,06W
3803	4822 117 10833	10kΩ	1%	0,1W
3805	4822 051 30103	10kΩ	5%	0,06W
3806	4822 051 30103	10kΩ	5%	0,06W
3807	4822 051 30103	10kΩ	5%	0,06W
3808	4822 051 30103	10kΩ	5%	0,06W

ELECTRICAL PARTSLIST 3CDC-LC MODULE

RESISTORS

3810	4822 051 30471	470Ω	5%	0,06W
3811	4822 051 30273	27kΩ	5%	0,06W
3812	4822 051 20471	470Ω	5%	0,1W
3813	4822 051 20471	470Ω	5%	0,1W
3814	4822 051 20471	470Ω	5%	0,1W
3815	4822 052 10478	4,7Ω	5%	NFR25
3816	4822 051 20471	470Ω	5%	0,1W
3817	4822 051 30471	470Ω	5%	0,06W
3818	4822 051 30471	470Ω	5%	0,06W
3819	4822 051 20471	470Ω	5%	0,1W
3820	4822 051 30332	3,3kΩ	5%	0,06W
3821	4822 051 30332	3,3kΩ	5%	0,06W
3822	4822 051 20332	3,3kΩ	5%	0,1W
3823	4822 051 30102	1kΩ	5%	0,06W
3824	4822 051 30102	1kΩ	5%	0,06W
3825	4822 051 10102	1kΩ	2%	0,25W
3826	4822 051 30223	22kΩ	5%	0,06W
3827	4822 051 20273	27kΩ	5%	0,1W
3829	4822 117 13608	4,7Ω	5%	0,06W
3830	4822 051 20223	22kΩ	5%	0,1W
3833	4822 051 30223	22kΩ	5%	0,06W
3834	4822 051 30223	22kΩ	5%	0,06W
3835	4822 052 10338	3,3Ω	5%	NFR25
3836	4822 117 12903	1,8kΩ	1%	0,06W
3837	4822 051 10102	1kΩ	2%	0,25W
3838	4822 051 30102	1kΩ	5%	0,06W
3839	4822 117 13632	100kΩ	1%	0,06W
3840	4822 051 20471	470Ω	5%	0,1W
3842	4822 117 10834	47kΩ	1%	0,1W
3843	4822 051 20333	33kΩ	5%	0,1W
3844	4822 051 30472	4,7kΩ	5%	0,06W
3845	4822 117 10834	47kΩ	1%	0,1W
3846	4822 051 20333	33kΩ	5%	0,1W
3847	4822 051 30682	6,8kΩ	5%	0,06W
3848	3198 021 52240	220kΩ	5%	0,1W
3849	4822 051 30472	4,7kΩ	5%	0,06W
3850	4822 051 30682	6,8kΩ	5%	0,06W
3853	4822 051 20471	470Ω	5%	0,1W
3854	4822 117 11373	100Ω	1%	0,1W
3855	4822 117 12971	15Ω	5%	0,06W
3856	4822 117 12521	68Ω	1%	0,1W
3857	4822 117 12521	68Ω	1%	0,1W
3861	4822 051 30103	10kΩ	5%	0,06W
3862	4822 051 20121	120Ω	5%	0,1W
3863	4822 051 30339	33Ω	5%	0,06W
3864	4822 051 30101	100Ω	5%	0,06W
3865	4822 051 30121	120Ω	5%	0,06W
3866	4822 051 30103	10kΩ	5%	0,06W
3871	4822 051 20683	68kΩ	5%	0,1W
3872	4822 051 30472	4,7kΩ	5%	0,06W
3878	4822 117 11503	220Ω	5%	0,1W
3880	4822 052 10338	3,3Ω	5%	NFR25
3881	4822 117 11503	220Ω	5%	0,1W
3882	4822 117 10837	100kΩ	1%	0,1W
3883	4822 051 10102	1kΩ	2%	0,25W
3890	4822 051 30332	3,3kΩ	5%	0,06W
3891	4822 051 30472	4,7kΩ	5%	0,06W
4700	4822 051 20008	CHIP JUMPER 0805		
4701	4822 051 20008	CHIP JUMPER 0805		
4702	4822 051 20008	CHIP JUMPER 0805		
4703	4822 051 20008	CHIP JUMPER 0805		
4704	4822 051 20008	CHIP JUMPER 0805		
4705	4822 051 20008	CHIP JUMPER 0805		
4706	4822 051 20008	CHIP JUMPER 0805		

RESISTORS

4707	4822 051 20008	CHIP JUMPER 0805		
4708	4822 051 20008	CHIP JUMPER 0805		
4709	4822 051 20008	CHIP JUMPER 0805		
4710	4822 051 20008	CHIP JUMPER 0805		
4711	4822 051 20008	CHIP JUMPER 0805		
4712	4822 051 20008	CHIP JUMPER 0805		
4713	4822 051 20008	CHIP JUMPER 0805		
4714	4822 051 20008	CHIP JUMPER 0805		
4715	4822 051 20008	CHIP JUMPER 0805		
4716	4822 051 20008	CHIP JUMPER 0805		
4717	4822 051 30008	CHIP JUMPER 0603		
4718	4822 051 20008	CHIP JUMPER 0805		
4719	4822 051 20008	CHIP JUMPER 0805		
4720	4822 051 20008	CHIP JUMPER 0805		
4722	4822 051 20008	CHIP JUMPER 0805		
4724	4822 051 20008	CHIP JUMPER 0805		
4726	4822 051 20008	CHIP JUMPER 0805		
4727	4822 051 20008	CHIP JUMPER 0805		
4728	4822 051 20008	CHIP JUMPER 0805		
4729	4822 051 20008	CHIP JUMPER 0805		
4730	4822 051 20008	CHIP JUMPER 0805		
4731	4822 051 30008	CHIP JUMPER 0603		
4732	4822 051 20008	CHIP JUMPER 0805		
4733	4822 051 30008	CHIP JUMPER 0603		
4734	4822 051 20008	CHIP JUMPER 0805		
4735	4822 051 20008	CHIP JUMPER 0805		
4736	4822 051 30008	CHIP JUMPER 0603		
4737	4822 051 30008	CHIP JUMPER 0603		
4738	4822 051 30008	CHIP JUMPER 0603		
4739	4822 051 30008	CHIP JUMPER 0603		
4740	4822 051 30008	CHIP JUMPER 0603		
4741	4822 051 20008	CHIP JUMPER 0805		
4742	4822 051 20008	CHIP JUMPER 0805		
4743	4822 051 20008	CHIP JUMPER 0805		
4744	4822 051 30008	CHIP JUMPER 0603		
4745	4822 051 20008	CHIP JUMPER 0805		
4746	4822 051 20008	CHIP JUMPER 0805		
4747	4822 051 20008	CHIP JUMPER 0805		
4748	4822 051 20008	CHIP JUMPER 0805		
4749	4822 051 30008	CHIP JUMPER 0603		
4801	4822 051 20008	CHIP JUMPER 0805		
4804	4822 051 20008	CHIP JUMPER 0805		
4806	4822 051 20008	CHIP JUMPER 0805		
4807	4822 051 20008	CHIP JUMPER 0805		
4808	4822 051 20008	CHIP JUMPER 0805		
4809	4822 051 20008	CHIP JUMPER 0805		
4810	4822 051 20008	CHIP JUMPER 0805		
4811	4822 051 20008	CHIP JUMPER 0805		
4820	4822 051 20008	CHIP JUMPER 0805		
4823	4822 051 30008	CHIP JUMPER 0603		
4824	4822 051 30008	CHIP JUMPER 0603		
4825	4822 051 20008	CHIP JUMPER 0805		
4826	4822 051 20008	CHIP JUMPER 0805		
4828	4822 051 30008	CHIP JUMPER 0603		
4829	4822 051 20008	CHIP JUMPER 0805		
4830	4822 051 20008	CHIP JUMPER 0805		
4831	4822 051 20008	CHIP JUMPER 0805		
4832	4822 051 30008	CHIP JUMPER 0603		
4833	4822 051 20008	CHIP JUMPER 0805		
4834	4822 051 20008	CHIP JUMPER 0805		
4837	4822 051 20008	CHIP JUMPER 0805		
4838	4822 051 30008	CHIP JUMPER 0603		
4839	4822 051 20008	CHIP JUMPER 0805		
4840	4822 051 20008	CHIP JUMPER 0805		

ELECTRICAL PARTSLIST 3CDC-LC MODULE

RESISTORS

4841	4822 051 20008	CHIP JUMPER 0805		
4842	4822 051 20008	CHIP JUMPER 0805		
4844	4822 051 20008	CHIP JUMPER 0805		
4845	4822 051 20008	CHIP JUMPER 0805		
4846	4822 051 20008	CHIP JUMPER 0805		
4847	4822 051 20008	CHIP JUMPER 0805		
4848	4822 051 20008	CHIP JUMPER 0805		
4849	4822 051 30008	CHIP JUMPER 0603		
4851	4822 051 30008	CHIP JUMPER 0603		
4855	4822 051 20008	CHIP JUMPER 0805		
4856	4822 051 20008	CHIP JUMPER 0805		
4857	4822 051 20008	CHIP JUMPER 0805		
4858	4822 051 20008	CHIP JUMPER 0805		
4868	4822 051 20008	CHIP JUMPER 0805		
4869	4822 051 20008	CHIP JUMPER 0805		
4870	4822 051 20008	CHIP JUMPER 0805		
4871	4822 051 20008	CHIP JUMPER 0805		
4872	4822 051 20008	CHIP JUMPER 0805		
4873	4822 051 20008	CHIP JUMPER 0805		
4874	4822 051 20008	CHIP JUMPER 0805		
4875	4822 051 20008	CHIP JUMPER 0805		
4876	4822 051 20008	CHIP JUMPER 0805		
4878	4822 051 20008	CHIP JUMPER 0805		
4879	4822 051 20008	CHIP JUMPER 0805		
4880	4822 051 20008	CHIP JUMPER 0805		
4882	4822 051 20008	CHIP JUMPER 0805		
4883	4822 051 20008	CHIP JUMPER 0805		
4884	4822 051 20008	CHIP JUMPER 0805		
4885	4822 051 20008	CHIP JUMPER 0805		
4886	4822 051 20008	CHIP JUMPER 0805		
4887	4822 051 30008	CHIP JUMPER 0603		
4888	4822 051 20008	CHIP JUMPER 0805		
4889	4822 051 20008	CHIP JUMPER 0805		
4890	4822 051 20008	CHIP JUMPER 0805		
4891	4822 051 30008	CHIP JUMPER 0603		

RESISTORS

4892	4822 051 20008	CHIP JUMPER 0805		
4893	4822 051 20008	CHIP JUMPER 0805		
4894	4822 051 20008	CHIP JUMPER 0805		
4895	4822 051 20008	CHIP JUMPER 0805		
4896	4822 051 20008	CHIP JUMPER 0805		
4897	4822 051 20008	CHIP JUMPER 0805		
4898	4822 051 20008	CHIP JUMPER 0805		
4899	4822 051 20008	CHIP JUMPER 0805		

COILS

1810	2422 540 98519	RESONATOR 8,467MHZ		
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DIODES

6801	4822 130 11397	BAS316		
6802	4822 130 11397	BAS316		
6803	4822 130 11397	BAS316		
6804	4822 130 11397	BAS316		
6805	9340 548 52115	BZX284-C5V1		
6807	9322 129 34685	BZX284-C3V9		
6808	4822 130 11397	BAS316		
6809	9322 129 34685	BZX284-C3V9		

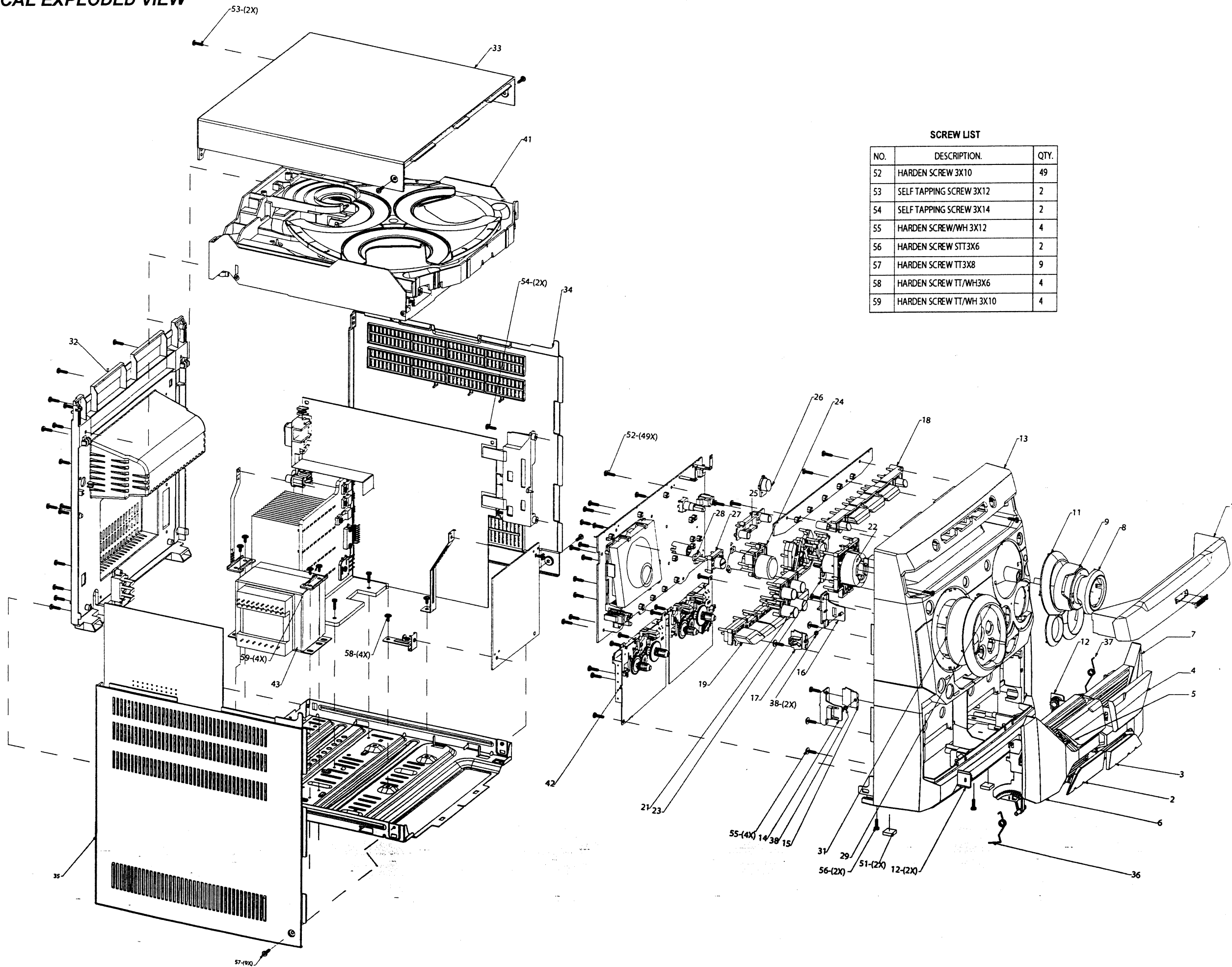
TRANSISTORS

7806	5322 130 60159	BC846B		
7812	5322 130 60159	BC846B		
7815	5322 130 60159	BC846B		

INTEGRATED CIRCUITS

7801	9352 622 36118	TZA1025T/V2 HF-Amplifier		
7802	9352 641 80557	SAA7324H/M2B,"CD10" SIGN.PROC.		
7803	4822 209 32852	TDA7073A/N2		
7807	4822 209 32852	TDA7073A/N2		
7811	4822 209 33165	TDA1308T/N1		
7813	5322 209 11306	HEF4094BT, SHIFT REGISTER		
7814	4822 209 32852	TDA7073A/N2		

MECHANICAL EXPLODED VIEW



SCREW LIST

NO.	DESCRIPTION.	QTY.
52	HARDEN SCREW 3X10	49
53	SELF TAPPING SCREW 3X12	2
54	SELF TAPPING SCREW 3X14	2
55	HARDEN SCREW/WH 3X12	4
56	HARDEN SCREW STT3X6	2
57	HARDEN SCREW TT3X8	9
58	HARDEN SCREW TT/WH3X6	4
59	HARDEN SCREW TT/WH 3X10	4

ELECTRICAL PARTS LIST MP3CD2002 MODULE

MISCELLANEOUS			
1451	3103 308 87020	complete MP3CD2002 Module	
2422	025 17303	FLEX FOIL CONNECTOR 19P	
CAPACITORS			
2450	2238 586 58812	100nF 10%	50V
2451	3198 017 41050	1uF 20%	10V
2452	3198 017 41050	1uF 20%	10V
2453	2238 586 58812	100nF 10%	50V
2454	2238 586 58812	100nF 10%	50V
2455	2238 586 58812	100nF 10%	50V
2456	2238 586 58812	100nF 10%	50V
2457	5322 126 11583	10nF 10%	63V
2458	5322 126 11583	10nF 10%	63V
2459	3198 017 41050	1uF 20%	10V
2460	2238 586 58812	100nF 10%	50V
2461	4822 124 81059	220uF 20%	4V
2462	3198 017 41050	1uF 20%	10V
2463	3198 017 41050	1uF 20%	10V
2464	2238 586 58812	100nF 10%	50V
2465	2238 586 58812	100nF 10%	50V
2466	2238 586 58812	100nF 10%	50V
2467	3198 017 41050	1uF 20%	10V
2468	3198 017 41050	1uF 20%	10V
2469	2238 586 58812	100nF 10%	50V
2470	2238 586 58812	100nF 10%	50V
2471	2238 586 58812	100nF 10%	50V
RESISTORS			
3449	4822 051 30101	100k	5% 0.06W
3450	4822 117 12871	15k	5% 0.06W
3451	4822 117 12871	15k	5% 0.06W
3452	4822 051 30101	100k	5% 0.06W
3453	4822 051 30109	10k	5% 0.06W
3454	4822 117 12871	15k	5% 0.06W
3455	4822 051 30102	1k	5% 0.06W
3456	4822 051 30102	1k	5% 0.06W
3457	5322 117 13051	680k	1% 0.063W
3458	5322 117 13061	180k	1% 0.063W
3459	4822 051 30221	220k	5% 0.06W
3460	4822 051 30102	1k	5% 0.06W
3461	4822 051 30479	47k	5% 0.06W
3462	4822 051 30101	100k	5% 0.06W
3463	4822 051 30101	100k	5% 0.06W
3464	4822 051 30103	10k	5% 0.06W
3465	4822 051 30471	470k	5% 0.06W
3466	4822 051 30103	10k	5% 0.06W
3467	4822 051 30103	10k	5% 0.06W
3468	4822 051 30103	10k	5% 0.06W
3469	4822 051 30101	100k	5% 0.06W
3470	4822 117 12871	15k	5% 0.06W
3471	4822 051 30339	33k	5% 0.06W
3472	4822 051 30154	150k	5% 0.06W
3473	4822 117 13632	100k	1% 0.06W

MECHANICAL & ACCESSORIES

1	9940 000 01275	CDC TRAY DOOR /22
1	9940 000 01331	CDC TRAY DOOR /21/30
2	9940 000 01292	CASS LENS BOTTOM L
3	9940 000 01291	CASS LENS BOTTOM R
4	9940 000 01288	CASS RIGHT TOP LENS
5	9940 000 01289	CASS LEFT TOP LENS
6	9940 000 01287	CASS BOX LEFT /21/22
6	9940 000 01338	CASS BOX LEFT /30
7	9940 000 01286	CASS BOX RIGHT /21/22
7	9940 000 01337	CASS BOX RIGHT /30
8	9940 000 01297	VOL. KNOB GRIP
9	9940 000 01296	VOL. KNOB RING
11	9940 000 01281	COSMETIC RING
12	9940 000 01295	DAMPER GEAR ASSY
13	9940 000 01278	FRONT CAB /22
13	9940 000 01332	FRONT CAB /21
13	9940 000 01336	FRONT CAB /30
14	9940 000 01284	LEFT-BRACKET
15	9940 000 01294	PUSH CATCH LEFT
16	9940 000 01283	RIGHT-BRACKET
17	9940 000 01293	PUSH CATCH
18	9940 000 01305	CD DISC KEYS
19	9940 000 01306	MODEL KEY
21	9940 000 01301	SOURCE KEYS
22	9940 000 01299	CD CONTROL KEY
23	9940 000 01298	CD PLAY KEY
24	9940 000 01303	DBB KNOB
25	9940 000 01302	AUTO KEYS
26	9940 000 01309	IR LENS
27	9940 000 01304	STANDBY KEY
28	9940 000 01307	STANDBY LENS
29	9940 000 01282	DISPLAY RING
31	9940 000 01308	DISPLAY LENS
32	9940 000 01279	REAR PANEL
33	9940 000 01285	TOP COVER
34	9940 000 01277	PANEL RIGHT
35	9940 000 01276	PANEL LEFT
36	9940 000 01266	SPRING -LEFT
37	9940 000 01267	SPRING -RIGHT
38	9940 000 01268	SPRING COMPRESSION

Note: Only these parts mentioned in the list are normal service parts.

ELECTRICAL PARTS - MISCELLANEOUS

Δ 9940 000 01254	TRANSFORMER 230V /22
Δ 9940 000 01326	TRANSFORMER 127-240V /21
Δ 9940 000 01341	TRANSFORMER 240V /30
9940 000 01255	15P FFC 1.25MM L=180MM
9940 000 01256	4P FFC 1.25MM L=220MM
9940 000 01257	11P FFC 1.25MM L=260MM
9940 000 01258	6P FFC 1.25MM L=280MM
9940 000 01259	6P FFC 1.25MM L=280MM
9940 000 01261	7P FFC 1.25MM L=280MM
9940 000 01262	19P FFC 1.25MM L=280MM
9940 000 01328	19P FFC 1MM L=180MM /21
9940 000 01335	7P FFC 1.25MM L=220MM /30
9940 000 01504	FRONT BOARD ASSY /22
9940 000 01506	MAIN BOARD ASSY /22
9940 000 01507	POWER BOARD ASSY /22
9940 000 01508	CASS DECK BOARD ASSY /22

Note: Only these parts mentioned in the list are normal service parts.

